**CONFERENCE PRESENTATIONS LIST**
**LABORATORY FOR LASER ENERGETICS**

## 2022

"Cross-Beam Energy Transfer on Graphics Processing Units," A. Bowman, M. Burns, A. Poudel, S. Zhai, S. Dwarkadas, A. B. Sefkow, and S. Pai, presented at Senior Design Day, Rochester, NY, 29 April 2022.

"Big Lasers and Big Computers: The Flash Center for Computational Science and the *FLASH* Code at UR," P. Tzeferacos, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Expanding the Tabulated Equation-of-State Implementations in the *FLASH* Code for the *SESAME* Database," P. Farmakis, M. McMullan, A. Reyes, J. Laune, M. B. P. Adams, A. Armstrong, E. C. Hansen, Y. Lu, D. Michta, K. Moczulski, D. Lamb, and P. Tzeferacos, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"FIDUCIA: A New User's Course into the Wonderful World of Cubic Spline Unfolding," D. H. Barnak, J. R. Davies, J. P. Knauer, and P. M. Kozlowski, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"*FLASH* Simulatinos of the Magnetized Quasi-Parallel Collisionless Shock Experiments on OMEGA EP," D. Michta, P. Tzeferacos, S. Bolanos, and M. Manuel, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Fourth-Generation Laser for Ultra-Broadband Experiments," D. H. Froula, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Gas-Jet System on OMEGA and OMEGA EP," S. T. Ivancic, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Generating Magnetic Fields Using MIDFEDS on Your Campaign at OMEGA/OMEGA EP," J. L. Peebles, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"High-Power, High-Energy Thz Generation Isong Joule- and Kilojoule-Class Lasers," G. Bruhaug, H. G. Rinderknecht, M. S. Wei, B. Brannon, D. Guy, R. Peck, N. Landis, G. Brent, R. Fairbanks, C. McAtee, T. Walker, T. Buczek, M. Krieger, M. Romanofsky, Y. E, K. Garriga, X. C. Zhang, G. W. Collins, and J. R. Rygg, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Implementation and Verification of LC Circuit for *Z*-Pinch *FLASH* Simulations," K. Moczulski, A. Reyes, M. B. P. Adams, A. Armstrong, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, D. Q. Lamb, and P. Tzeferacos, presented at Omega Laser Facility

Users Group, Rochester, NY, 27–29 April 2022.

"Implementation and Verification of Spitzer Viscosity in the *FLASH* Code," A. Armstrong, A. Reyes, M. B. P. Adams, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, K. Moczulski, D. Q Lamb, and P. Tzeferacos, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29

"Inclusion, Diversity, and Equity at the Laboratory for Laser Energetics," T. J. Kessler and M. Romo-Gonzalez, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"The Next Cooperative Agreement: FY24–FY28," C. Deeney, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Numerical Modeling of Laser-Driven Plasma Experiments Aiming to Study Turbulent Dynamo and Thermal Conduction at the National Ignition Facility," Y. Lu, S. Feister, J. Meinecke, F. Miniati, G. Gregori, A. Bott, A. Reyes, E. C. Hansen, J. T. Laune, B. Reville, J. S. Ross, D. Q. Lamb, and P. Tzeferacos, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Numerical Simulations of the VISAR Diagnostic," D. H. Barnak, R. Betti, V. Gopalaswamy, A. Lees, and A. Shvydky, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Omega Facility OLUG 2022 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Self-Optimizing Savitzky-Golay Filter for Generalized Signal Denoising," D. H. Barnak, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Simulating the Plasma Liner Experiment (PLX) with the *FLASH* Code," E. C. Hansen, P. Farmakis, D. Michta, C. Ren, A. C. Reyes, H. Wen, S. Langendorf, and P. Tzeferacos, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"The Sustainment Plan for the Omega Laser Facility," S. F. B. Morse, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Synthetic Diagnostics for High-Energy-Density Physics in PlasmaPy," P. V. Heuer, J. R. Davies, D. Stańczak, E. Everson, and N. Murphy, presented at Omega Laser Facility Users Group, Rochester, NY, 27–29 April 2022.

"Volume-of-Fluid Representation of Multifluid Compressible Hydrodynamics in the *FLASH* Code," A. Reyes, M. B. P. Adams, A. Armstrong, K. Moczulski, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, J. Grove, and P. Tzeferacos, presented at Omega Laser

Facility Users Group, Rochester, NY, 27–29 April 2022.

"Advanced IFE Target Designs with Next-Generation Laser Technologies," V. N. Goncharov, W. Trickey, N. Shaffer, A. Peneau, I. V. Igumenshchev, R. K. Follett, T. J. B. Collins, C. Dorrer, J. D. Zuegel, M. Tobin, W. Meier, and Y. Lawrence, presented at ARPA-E Fusion Programs Annual Meeting, San Francisco, CA, 26–27 April 2022.

"The LLE Diagnostic Resource Team for Innovative Fusion Concepts," J. R. Davies, H. Berger, C. J. Forrest, V. Yu. Glebov, H. McClow, M. Sharpe, and W. T. Shmayda, presented at ARPA-E Fusion Programs Annual Meeting, San Francisco, CA, 26–27 April 2022.

"A Simulation Resource Team for Innovative Fusion Concepts in the BETHE Program," P. Tzeferacos, A. Sefkow, C. Ren, R. Betti, J. R. Davies, H. Wen, J. G. Shaw, E. C. Hansen, D. Michta, F. Garcia-Rubio, and K. M. Woo, presented at ARPA-E Fusion Programs Annual Meeting, San Francisco, CA, 26–27 April 2022.

"Pulsed-Power Research at LLE," C. Deeney, presented at the ZNetUS Workshop, virtual, 21–22 April 2022.

"Proposed EP-OPAL Laser Facility," J. D. Zuegel, J. Bromage, D. H. Froula, E. M. Hill, J. P. Palastro, J. C. Puth, H. G. Rinderknecht, J. L. Shaw, C. J. Forrest, and L. J. Waxer, presented at the MP3 Workshop, Paris, France, 20–22 April 2022.

"Development of Ultra-Intense OPCPA Technologies on the MTW-OPAL System," J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, E. M. Schiesser, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented at the International Conference on High-Energy-Density Sciences, Yokohama, Japan, 18–22 April 2022 (invited).

"Probing Atomic Physics at Extreme Conditions," S. X. Hu, P. M. Nilson, D. T. Bishel, D. A. Chin, V. V. Karasiev, D. I. Mihaylov, N. R. Shaffer, S. Zhang, V. Recoules, N. Brouwer, M. Torrent, I. E. Golovkin, M. Gu, T. Walton, and S. B. Hansen, presented at the International Conference on High-Energy-Density Sciences, Yokohama, Japan, 18–22 April 2022 (invited).

"The Design of Self-Magnetically Insulated Transmission Lines for a 10-MA Intermediate-Scale Facility," R. B. Spielman, presented at the Cornell University Seminar, Cornell, NY, 13 April 2022.

"Laser Materials Technology Division and Major Projects," J. D. Zuegel, presented at the NNSA-OES Visit, virtual, 12 April 2022.

"Accessing High-Density States in $D_2$ Using Double Shocks," Z. K. Sprowal, L. E. Hansen, M. F. Huff, D. N. Polsin, T. R. Boehly, J. R. Rygg, G. W. Collins, and D. G.

Hicks, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"An Overview of the Laboratory for Laser Energetics: Always 'Reaching for the Brightest Light,'" C. Deeney, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"Convergence Research in Inertial Confinement Fusion," C. A. Williams, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"Data-Driven Experimental Design at LLE," V. Gopalaswamy, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"Diagnostic Development and Advanced Instrumentation for Fundamental Physics," J. Katz, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"LLE is a Word Leader for Designing, Innovating, and Constructing State-of-the-Art Lasers for a Wide Range of Scientific Applications for Ourselves and the Broader Scientific Community," E. M. Hill, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"Measuring Sound Speed in Shocked Iron," M. F. Huff, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"User Community," M. S. Wei, presented at the Panchanathan Visit, Rochester, NY, 11 April 2022.

"The Laboratory for Laser Energetics: Progress in Science and Technology," C. Deeney, presented at the Plasma Science and Fusion Center Seminar, virtual, 28 March 2022.

"An Exotic Phase of Iron in Earth's Inner Core: A First Principles-Based Study on the Mechanism of Cooperative Diffusion in Body-Centered-Cubic Iron," M. Ghosh, S. Zhang, and S. X. Hu, presented at the University of Rochester Graduate Education and Postdoctoral Affairs Research Symposium, Rochester, NY, 23 March 2022.

"*Ab Initio* Investigation of the Cooperative Diffusion in Body-Centered-Cubic Iron Under Inner Core Conditions of Earth and Super-Earth Exoplanets," M. Ghosh, S. Zhang, and S. X. Hu, presented at the APS March Meeting, Chicago, IL, 14–18 March 2022.

"Equation of State of Metallization of CH Along the Principal Hugoniot," R. M. N. Goshadze, V. V. Karasiev, D. I. Mihaylov, and S. X. Hu, presented at the APS March Meeting, Chicago, IL, 14–18 March 2022.

"Measurements of Sound Speed in Iron Shock Compressed to ~3000 GPa," M. Huff, J. R. Rygg, G. W. Collins, T. R. Boehly, D. N. Polsin, M. Nakajima, B. J. Henderson, M. C. Marshall, T. A. Suer, D. E. Fratanduono, M. Millot, R. F. Smith, C. A. McCoy, and L. E. Hansen, presented at the APS March Meeting, Chicago, IL, 14–18 March 2022.

"Nature of the Bonded-to-Atomic Transition in Liquid Silica at Extreme Conditions," S. Zhang, M. A. Morales, R. Jeanloz, M. Millot, S. X. Hu, and E. Zurek, presented at the APS March Meeting, Chicago, IL, 14–18 March 2022.

"Silica Aerogel as a Bright Optical Source for High Energy Density Experiments," B. J. Henderson, M. C. Marshall, J. R. Rygg, D. N. Polsin, L. E. Hansen, M. K. Ginnane, and G. W. Collins, presented at the APS March Meeting, Chicago, IL, 14–18 March 2022.

"Thermal-Induced Evolution of Magnetic Properties of $FeO_2$ Under High Pressures," R. Paul, S. Zhang, V. V. Karasiev, and S. X. Hu, presented at the APS March Meeting, Chicago, IL, 14–18 March 2022.

"Accessing High Density States in $D_2$ Using Double Shock," Z. K. Sprowal, L. E. Hansen, M. F. Huff, D. N. Polsin, D. G. Hicks, T. R. Boehly, J. R. Rygg, and G. W. Collins, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 12–19 March 2022.

"Thomson Scattering from a Different Perspective," D. H. Froula, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 12–19 March 2022.

"Understanding Matter in Extreme Conditions with *ab initio* Calculations," S. X. Hu., V. V. Karasiev, P. M. Nilson, D. T. Bishel, D. A. Chin, K. Nichols, R. Paul, R. Goshadze, M. Ghosh, J. Hinz, S. Zhang, D. I. Mihaylov, G. W. Collins, N. Shaffer, L. A. Collins, A. J. White, V. Recoules, N. Brouwer, M. Torrent, I. E. Golovkin, M. Gu, T. Walton, and S. B. Hansen, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 12–19 March 2022.

"X-Ray Absorption Spectroscopy (XAS) Temperature Measurements at High-Energy-Density (HED) Conditions," D. A. Chin, P. M. Nilson, D. T. Bishel, R. Paul, E. Smith, X. Gong, M. K. Ginnane, B. J. Henderson, D. N. Polsin, S. X. Hu, J. R. Rygg, G. W. Collins, D. Trail, A. Amouretti, M. Harmand, O. Mathon, R. Torchio, J. J. Ruby, F. Coppari, A. Coleman, and Y. Ping, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 12–19 March 2022.

"Extreme Matters: Pressures to Explore New Worlds and Revolutionary States of Matter," G. W. Collins, presented at Ecosystem for Collaborative Leadership and Inclusive Innovation in Plasma Science and Engineering, Alexandria, VA, 9–11 March 2022.

"Laser-Driven Experiments Shed New Light on Magnetized Turbulence and Fluctuation Dynamo in Astrophysical Plasmas," P. Tzeferacos, presented at Ecosystem for Collaborative Leadership and Inclusive Innovation in Plasma Science and Engineering, Alexandria, VA, 9–11 March 2022.

"Multi-Petawatt Physics Prioritization (MP3) Workshop," J. D. Zuegel, presented at Ecosystem for Collaborative Leadership and Inclusive Innovation in Plasma Science and Engineering, Alexandria, VA, 9–11 March 2022.

"Perspectives on Inertial Fusion Energy (IFE)," E. M. Campbell, presented at the Plasma Science and Fusion Center Seminar, virtual, 7 March 2022.

"Research at the Laboratory for Laser Energetics," J. P. Palastro, presented at the Physical Sciences and Astronomy Recruitment Event, Rochester, NY, 25 February 2022.

"LLE Perspective," E. M. Campbell, presented at the OES Executives Meeting, virtual, 24 February 2022.

"A Broad View of Solid-State Laser Drivers for Inertial Fusion Energy," J. D. Zuegel, presented at IFE Science and Technology Workshop, virtual, 22–24 February 2022.

"Inertial Fusion Energy Target Designs with Advanced Laser Technologies," V. N. Goncharov, IFE Science and Technology Workshop, virtual, 22–24 February 2022.

"Kilojoule Lasers for Dynamic Compression Studies," J. D. Zuegel, presented at Science with High-Power Lasers, PETRA IV Workshop, virtual, 22–23 February 2022.

"National Nuclear Security: 21st Century Science and Technology Perspectives," C. Deeney, presented at the World Affairs Council, West Palm Beach, FL, 21 February 2022.

"Thomson Scattering from a Different Perspective," D. H. Froula, presented at the Oxford Seminar, Oxford, UK, 21 February 2022.

"Perspectives on Inertial Fusion Energy," E. M. Campbell, presented at PB11 Science Seminar, virtual, 17 February 2022.

"High-Energy Lasers for Driving Dynamic Materials Experiments," J. D. Zuegel, presented at NNSA Advanced Photon Sources Sector Opportunities Workshop, virtual, 15–17 February 2022.

"Meta-GGA Exchange-Correlation Free-Energy Density Functional: Achieving Unprecedented Accuracy for Warm-Dense-Matter Simulations," V. V. Karasiev, D. I. Mihaylov, S. X. Hu, S. B. Trickey, and J. W. Dufty, presented at the 61st Sanibel Symposium, St. Simons Island GA, 13–18 February 2022.

"LLE is Leading Innovative ICF/IFR Diagnostic Development, Which is Amplified Through Participation in the National Diagnostics Working Group," W. Theobald, presented at the Workshop on New IFE/HEDP Laser Facility, virtual, 10 February 2022.

"Perspectives on Inertial Fusion Energy," E. M. Campbell, presented at Rochester Institute of Technology Spring Seminar, Rochester, NY, 10 February 2022.

"Fusion Energy via Laser-Driven Inertial Confinement," V. Gopalaswamy, R. Betti, J. P Knauer, D. Patel., A. Lees, A. R. Christopherson, K. M. Woo, C. A. Thomas, D. Cao, O. M. Mannion, R. C. Shah, C. J. Forrest, Z. L. Mohamed, C. Stoeckl, V. Yu. Glebov, S. P. Regan, D. H. Edgell, M. J. Rosenberg, I. V. Igumenshchev, P. B. Radha, K. S. Anderson, J. R. Davies, T. J. B. Collins, V. N. Goncharov, E. M. Campbell, R. Janezic, D. R. Harding, M. J. Bonino, S. Sampat, S. F. B. Morse, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at Reed College Physics Seminar, virtual, 9 February 2022.

"Expanding the Tabulated Equation-of-State Implementations in the *FLASH* Code of the *SESAME* Database," P. Farmakis, M. McMullan, A. Reyes, J. Laune, M. B. P. Adams, A. Armstrong, E. C. Hansen, Y. Lu, D. Michta, K. Moczulski, D. Q. Lamb, and P. Tzeferacos, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Extreme Matters: Pressure to Explore New Worlds and Revolutionary States of Matter," G. W. Collins, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Implementation and Verification of Braginskii Viscosity in the *FLASH* Code," A. Armstrong, A. Reyes, M. B. P. Adams, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, K. Moczulski, D. Q. Lamb, and P. Tzeferacos, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Implementation and Verification of LC Circuit for *Z*-Pinch *FLASH* Simulations," K. Moczulski, A. Reyes, M. B. P. Adams, A. Armstrong, P. Farmakis, E. Hansen, Y. Lu., D. Michta, D. Q. Lamb, and P. Tzeferacos, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Numerical Modeling of Laser-Driven Plasma Experiments Aiming to Study Turbulent Dynamo and Thermal Conduction at the National Ignition Facility," Y. Lu, S. Feister, J. Meinecke, F. Miniati, G. Gregori, A. Bott, A. Reyes, E. C. Hansen, J. T. Laune, B. Reville, J. S. Ross, D. Q. Lamb, and P. Tzeferacos, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Observing the Effects of Ablation and Perforation on the Deeply Nonlinear Rayleigh–Taylor Instability," L. Ceurvorst, L. Masse, S. F. Khan, D. Martinez, N. Izumi, V. Smalyuk, T. Goudal, V. Bouffetier, A. Casner, B. Canaud, V. N. Goncharov, and I. V. Igumenshchev, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Transforming Simple Metals to Topological Insulators: Sodium to 18 Mbar," D. N.

Polsin, G. W. Collins, J. R. Rygg, X. Gong, M. Huff, M. K. Ginnane, M. McMahon, E. Zurek, A. Lazicki, S. Bonev, M. Gorman, R. Briggs, J. H. Eggert, and J. Wark, presented at the NIF and JLF User Meeting, Livermore, CA, 7–9 February 2022.

"Short-Pulse Lasers for Directed-Energy Hypersonic Defense, Swarms, and More," R. B. Spielman, E. M. Campbell, C. Deeney, P. Tzeferacos, and J. D. Zuegel, presented at the Visit of J. Stiles, Rochester, NY, 26 January 2022.

"Open Source Software and Data Formats for High-Energy-Density Physics," P. V. Heuer, S. Feister, N. A. Murphy, and J. R. Davies, presented at LPA Control Systems and Machine Learning, virtual, 24–28 January 2022.

"Interdigitated Electrode Geometry Variation and External Quantum Efficiency of GaN/AlGaN-Based Metal–Semiconductor–Metal UV Photodetectors," S. F. Nwabunwanne and W. R. Donaldson, presented at Photonics West 2022, San Francisco, CA, 22–27 January 2022.

"Perspectives on Inertial Fusion Energy (IFE)," E. M. Campbell, presented at LLE Research and Review, 14 January 2021.

**2021**

"Thermonuclear Ignition in Laser-Driven Inertial Confinement Fusion," R. Betti, presented at the Centro Ricerche Frascati, Frascati, Italy, 17 December 2021.

"University of Rochester and the Laboratory for Laser Energetics: An Overview," E. M. Campbell, presented at the 3rd INFUSE Workshop, virtual, 16–17 December 2021.

"ICF Research at the University of Rochester's Laboratory for Laser Energetics," E. M. Campbell, presented at the 42nd Annual Meeting of Fusion Power Associates, virtual, 15–16 December 2021.

"Mechanism of Cooperative Diffusion in bcc Iron Under Earth and Super-Earth's Inner Core Conditions," M. Ghosh, S. Zhang, and S. X. Hu, presented at the American Geophysical Union Fall Meeting, New Orleans, LA, 13–17 December 2021.

"Melting, Acoustic Properties, and Thermal Conditions of $FeO_2$ Near Core–Mantle Boundary Conditions," R. Paul, K. Nichols, S. Zhang, S. X. Hu, and V. V. Karasiev, presented at the American Geophysical Union Fall Meeting, New Orleans, LA, 13–17 December 2021.

"Influence of Heat Treatments on the Near Surface Tritium Concentration Profiles," M. Sharpe, W. T. Shmayda, and J. J. Ruby, presented at the 2021 IEEE Pulsed Power Conference and Symposium on Fusion Engineering, Denver, CO, 12–16 December 2021.

"Review of Inertial Confinement Fusion: Physics and Engineering Challenges," C. A.

Thomas, E. M. Campbell, and M. Tabak, presented at the 2021 IEEE Pulsed Power Conference and Symposium on Fusion Engineering, Denver, CO, 12–16 December 2021 (invited).

"Tritium Recovery from SPARC," W. T. Shmayda, H. Mutha, and K. Ryan, presented at the 2021 IEEE Pulsed Power Conference and Symposium on Fusion Engineering, Denver, CO, 12–16 December 2021.

"Advanced Radiation Sources Enabled by Spatiotemporal Control of Laser Intensity," J. P. Palastro, P. Franke, M. Lim Pac Chong, K. L. Nguyen, J. Pigeon, D. Ramsey, H. G. Rinderknecht, J. L. Shaw, T. T. Simpson, D. Turnbull, K. Weichman, D. H. Froula, M. Formanek, A. Di Piazza, B. Malaca, M. Pardal, and J. Vieira, presented at the National Diagnostic Workshop, virtual, 7–9 December 2021.

"Design of the Third X-Ray Line of Sight for OMEGA," S. T. Ivancic, W. Theobald, K. Churnetski, M. Michalko, R. Spielman, S. P. Regan, A. Raymond, J. D. Kilkenny, A. Carpenter, C. Trosseille, D. K. Bradley, J. D. Hares, A. K. L. Dymoke-Bradshaw, G. Rochau, M. Sanchez, and D. Garand, presented at the National Diagnostic Workshop, virtual, 7–9 December 2021.

"An Introduction to Knock-on Deuteron Imaging (KoDI) for Diagnosing the Fuel and Hot Spot in Direct-Drive ICF Implosions," H. G. Rinderknecht, J. P. Knauer, W. Theobald, R. Fairbanks, B. Brannon, V. Kobilansky, R. Peck, J. Armstrong, M. Weisbeck, J. Brown, P. B. Radha, S. P. Regan, J. Kunimune, P. Adrian, M. Gatu Johnson, J. A. Frenje, F. Séguin, and B. Bachmann, presented at the National Diagnostic Workshop, virtual, 7–9 December 2021.

"Magnetized Target Capabilities and Diagnostic Needs at LLE," J. L. Peebles, presented at the National Diagnostic Workshop, virtual, 7–9 December 2021.

"Measurements of Non-Maxwellian Electron Distribution Functions Using Angularly Resolved Thomson Scattering," A. L. Milder, J. Katz, R. Boni, D. Nelson, J. P. Palastro, P. Franke, J. L. Shaw, S. T. Ivancic, A. M. Hansen, D. Turnbull, I. A. Begishev, K. Daub, Z. Barfield, R. K. Follett, D. H. Froula, M. Sherlock, H. P. Le, T. Chapman, and W. Rozmus, presented at the National Diagnostic Workshop, virtual, 7–9 December 2021.

"DOE Cooperative FY19–23 Agreement: Diagnostic Development (10.3)," S. P. Regan, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Education and User Access," M. S. Wei, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Engineering, Information Technology and Cybersecurity, and Safety," C. Sorce, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"HEDS Curriculum and Mentoring at the University of Rochester," G. W. Collins, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"High-Energy-Density Experiments: Case Studies," J. R. Rygg, D. N. Polsin, X. Gong, M. C. Marshall, G. W. Collins, J.-P. Davis, C. McCoy, C. Seagle, A. Lazicki, R. Kraus, J. H. Eggert, and D. E. Fratanduono, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Highlights of Recent Progress in High-Energy-Density Physics Theory/Computation at LLE," S. X. Hu, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Laboratory for Laser Energetics (LLE) Contributions to the Stockpile Stewardship Mission," G. W. Collins, S. X. Hu, and J. R. Rygg, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"The Laboratory for Laser Energetics: Our Cooperative Agreement Going Forward," C. Deeney and E. M. Campbell, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"The Laboratory for Laser Energetics: An Overview of the FY19–FY23 Cooperative Agreement," E. M. Campbell, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Laser and Materials Technology Division and Major Projects," J. D. Zuegel, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Laser-Plasma Instabilities: Deep Dive," D. Turnbull, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"OMEGA DT Cryogenic Implosion Progress," V. Gopalaswamy, R. Betti, J. P. Knauer, D. Patel, A. Lees, K. M. Woo, C. A. Thomas, D. Cao, O. M. Mannion, R. C. Shah, C. J. Forrest, Z. L. Mohamed, C. Stoeckl, V. Yu. Glebov, S. P. Regan, D. H. Edgell, M. J. Rosenberg, I. V. Igumenshchev, P. B. Radha, K. S. Anderson, J. R. Davies, T. J. B. Collins, V. N. Goncharov, E. M. Campbell, R. T. Janezic, D. R. Harding, M. J. Bonino, S. Sampat, K. A. Bauer, S. F. B. Morse, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Omega Facility Performance FY19–FY23," S. F. B. Morse, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Review of Ignition Science Campaigns," V. N. Goncharov, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Target Production and Development at LLE," D. R. Harding, A. Behlok, M. J. Bonino, T. Cracium, S. Fess, J. Fooks, S. Karim, I. Knudsen, K. Lintz, N. Redden, D. Wasilewski, M. Wittman, Y. Lu, P. Fan, and X. Huang, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"University of Rochester Support of the Laboratory for Laser Energetics' Research Portfolio," S. Stagnitto, presented at the Cooperative Agreement Review Meeting, Rochester, NY, 6–7 December 2021.

"Principles of Inertial Confinement Fusion," E. M. Campbell, presented at the NROTC visit, Rochester, NY, 1 December 2021.

"Mechanical Properties of Micrometer-Size Foam-Like Auxetic Structures," M. Wang and D. R. Harding, presented at the MRS Fall Meeting, Boston, MA, 28 November–3 December 2021.

"ICF Diagnostics and Instrumentation: LLE," S. P. Regan, presented at the OES Annual Meeting, virtual, 17–18 November 2021.

"ICF-Facility Operations LLE 10.7," E. M. Campbell, presented at the OES Annual Meeting, virtual, 17–18 November 2021.

"MTE 10.8," T. C. Sangster, presented at the OES Annual Meeting, virtual, 17–18 November 2021.

"The Laboratory for Laser Energetics: An Overview," C. Deeney, presented at the Danny Lowe visit, Rochester, NY, 16 November 2021.

"Inertial Fusion Energy (IFE): Opportunities and Challenges," E. M. Campbell, presented at the Inertial Fusion Energy Workshop, Livermore, CA, 16 November 2021.

"The Laboratory for Laser Energetics: An Overview," C. Deeney, presented at the L3Harris visit, Rochester, NY, 15 November 2021.

"VASP 6.2.1 Runtime Comparison for Extreme Thermodynamic Condition Simulations Using Graphics-Processing Units," D. E Keller and V. V. Karasiev, presented at PMBS21, virtual, 14–19 November 2021.

"Ablative Energetics of Large-Capsule Low-Intensity Direct Drive Implosions at the National Ignition Facility," M. J. Schmitt, B. S. Scheiner, D. Schmidt, L. Kot, B. Keenan, M. J. Rosenberg, P. W. McKenty, and R. S. Craxton, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Absorption of Laser Light by Coupling to Incoherent Plasma Waves at Quarter-Critical

Density," A. V. Maximov, D. Turnbull, R. K. Follett, D. H. Edgell, J. G. Shaw, H. Wen, D. H. Froula, and J. P. Palastro, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Accessing High Density States in $D_2$ Using Double Shock," Z. K. Sprowal, L. E. Hansen, M. Zaghoo, J. R. Rygg, T. R. Boehly, D. N. Polsin, M. Huff, G. W. Collins, D. G. Hicks, and P. M. Celliers, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Advances Toward Hydro-Equivalent Ignition in OMEGA Direct-Drive Implosions," V. Gopalaswamy, R. Betti, J. P. Knauer, D. Patel, A. Lees, K. M. Woo, C. A. Thomas, D. Cao, O. M. Mannion, R. C. Shah, C. J. Forrest, Z. L. Mohamed, C. Stoeckl, V. N. Glebov, S. P. Regan, D. H. Edgell, M. J. Rosenberg, I. V. Igumenshchev, P. B. Radha, K. S. Anderson, J. R. Davies, T. J. B. Collins, V. N. Goncharov, K. Churnetski, W. Theobald, E. M. Campbell, R. T. Janezic, D. R. Harding, M. J. Bonino, S. Sampat, K. A. Bauer, S. F. B. Morse, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021 (invited).

"Advancing the Accuracy of DFT Simulations for High-Energy-Density Plasmas by Developing Temperature-Dependent Exchange-Correlation Functionals," V. V. Karasiev, D. I. Mihaylov, S. X. Hu, S. B. Trickey, and J. W. Dufty, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021 (invited).

"Analysis of Hot-Electron Preheat of High-Performing OMEGA Cryogenic Implosions," D. Patel, R. Betti, C. Stoeckl, M. J. Rosenberg, V. Gopalaswamy, J. P. Knauer, S. P. Regan, W. Theobald, V. Yu. Glebov, and A. R. Christopherson, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Analysis of Modulations Observed in X-Ray Self-Emission Images of OMEGA Direct-Drive Inertial Confinement Fusion Implosions," T. R. Joshi, R. C. Shah, W. Theobald, I. V. Igumenshchev, J. Baltazar, D. Cao, and S. P. Regan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Assessment of Radiation Trapping in Inertial Confinement Fusion Implosion Experiments with High-*Z*–Lined, Single-Shell Targets," R. Epstein, V. N. Goncharov, S. X. Hu, D. Cao, A. Shvydky, P. W. McKenty, G. W. Collins, D. Haberberger, J. L. Kline, and S. M. Finnegan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Characterization of X-Ray Emission from Spherical Shells for X-Ray Absorption Spectroscopy Experiments on OMEGA 60," D. A. Chin, P. M. Nilson, D. T. Bishel, E. Smith, R. S. Craxton, J. R. Rygg, G. W. Collins, J. J. Ruby, F. Coppari, A. Coleman,

and Y. Ping, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Computational Modeling of the Target Mounting Stalk in Direct-Drive Implosions," K. S. Anderson, E. C. Hansen, J. A. Marozas, T. J. B. Collins, V. N. Goncharov, M. M. Marinak, and S. Sepke, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Coulomb Collision Models for PIC Simulations of Field Reversed Configurations and Beam-Plasma Interactions," M. J. Lavell, J. G. Shaw, A. Kish, A. Sexton, A. Srinivasan, S. Sikorski, and A. B. Sefkow, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Cross-Beam Energy Transfer Saturation by Ion Trapping-Induced Detuning," K. L. Nguyen, L. Yin, B. J. Albright, A. M. Hansen, D. Turnbull, R. K. Follett, D. H. Froula, and J. P. Palastro, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Deceleration Phase Rayleigh–Taylor Growth in Dynamic Shell ICF Designs," Y. Lawrence, V. N. Goncharov, W. Trickey, I. V. Igumenshchev, K. Woo, and J. Carroll-Nellenback, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"A Deep Learning Approach to Design Inertial Confinement Fusion Experiments," R. Ejaz, V. Gopalaswamy, and R. Betti, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Design of Experiments to Study Relativistically Transparent Magnetic Filaments Using OMEGA EP," M. VanDusen-Gross, K. Weichman, D. R. Harding, A. Arefiev, J. Williams, A. Haid, and H. G. Rinderknecht, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Design of the Third X-Ray Line of Sight for OMEGA," S. T. Ivancic, W. Theobald, K. Churnetski, M. Michalko, R. Spielman, S. P. Regan, A. Raymond, J. D. Kilkenny, A. Carpenter, C. Trosseille, D. K. Bradley, J. D. Hares, A. K. L. Dymoke Bradshaw, G. Rochau, M. Sanchez, and D. Garand, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Diagnosing Low-Mode ($\ell \leq 6$) and Mid-Mode ($6 < \ell \leq 40$) Asymmetries in the Explosion Phase of Laser-Direct-Drive DT Cryogenic Implosions on OMEGA," J. Baltazar, R. C. Shah, D. Cao, V. Gopalaswamy, R. Betti, D. Patel, C. Stoeckl, W. Theobald, K. M. Woo, and S. P. Regan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA,

8–12 November 2021.

“Direct Measurements of Laser Absorption in Undersense Plasmas on OMEGA,” J. Katz, A. L. Milder, D. Turnbull, S. T. Ivancic, D. H. Froula, M. Sherlock, P. Michel, L. Divol, D. Strozzi, and W. Rozmus, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

“A Dual Laser-Beam Configuration Compatible with Both Symmetric Direct Drive and Spherical Hohlraums,” R. S. Craxton, W. Y. Wang, M. A. Marangola, and E. M. Campbell, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

“Dynamic Shell Stability to Low-Mode Perturbations,” I. V. Igumenshchev, V. N. Goncharov, E. M. Campbell, T. J. B. Collins, M. J. Rosenberg, N. Shaffer, W. Theobald, W. Trickey, R. C. Shah, A. Shvydky, A. Colaitis, S. Atzeni, and L. Savino, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

“Effect of Mode-1 Perturbations on OMEGA Areal-Density Measurements,” J. P. Knauer, C. J. Forrest, Z. L. Mohamed, K. M. Woo, O. M. Mannion, I. V. Igumenshchev, R. Betti, V. Gopalaswamy, P. B. Radha, S. P. Regan, W. Theobald, M. Gatu Johnson, J. A. Frenje, A. J. Crilly, and B. D. Appelbe, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

“Effects of Ablation and Mode Coupling on the Deeply Nonlinear Stages of the Rayleigh–Taylor Instability,” L. Ceurvorst, L. Masse, S. Khan, D. A. Martinez, N. Izumi, V. A. Smalyuk, T. Goudal, V. Bouffetier, A. Casner, B. Canaud, V. N. Goncharov, and I. V. Igumenshchev, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

“Effects of Chromatic Aberration in a Dephasingless Laser Wakefield Accelerator,” M. V. Ambat, R. Boni, J. L. Shaw, P. Franke, K. R. McMillen, M. VanDusen-Gross, H. G. Rinderknecht, D. Ramsey, T. T. Simpson, J. P. Palastro, S.-W. Bahk, J. Bromage, and D. H. Froula, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

“Effects of Kilotesla-Level Applied Magnetic Fields on Relativistic Laser-Plasma Interactions,” K. Weichman, A. V. Arefiev, H. Mao, F. N. Beg, J. P. Palastro, A. P. L. Robinson, M. Murakami, S. Fujioka, J. J. Santos, T. Toncian, T. Ditmire, H. Quevedo, Y. Shi, and V. V. Ivanov, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021 (invited).

“Electron Radiography Based on Electron Beams from Laser-Plasma Accelerators,” J. L. Shaw, G. Bruhaug, M. Freeman, F. Merrill, V. Geppert-Kleinrath, and C. Wilde, presented at the 63rd Annual Meeting of the American Physical Society Division of

Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Energy-Coupling Experiments Using Solid Spheres in the Polar-Direct-Drive Configuration on OMEGA," C. Stoeckl, W. Theobald, P. B. Radha, T. Filkins, and S. P. Regan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Equation of State and Metallization of Methane Shock-Compressed to 400 GPa," G. Tabak, M. A. Millot, S. Hamel, T. Ogawa, P. M. Celliers, D. E. Fratanduono, A. Lazicki, D. Swift, S. Brygoo, P. Loubeyre, T. R. Boehly, N. Dasenbrock-Gammon, R. Dias, L. E. Hansen, B. J. Henderson, M. Zaghoo, S. Ali, R. Kodama, K. Miyanishi, N. Ozaki, T. Sano, R. Jeanloz, D. G. Hicks, G. W. Collins, J. H. Eggert, and J. R. Rygg, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Evaluation of Direct Inversion of Proton Radiographs in the Context of Cylindrical Implosions," J. R. Davies, D. H. Barnak, E. C. Hansen, P. V. Heuer, L. S. Leal, J. L. Peebles, and A. Birkel, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Examining the Role of Cross-Beam Energy Transfer in NIF Direct-Drive Exploding-Pusher Experiments," P. W. McKenty, J. A. Marozas, T. J. B. Collins, M. J. Rosenberg, G. E. Kemp, C. B. Yeamans, and L. Divol, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Expanding the Tabulated Equation-of-State Implementations in the *FLASH* Code for the *SESAME* Database," P. Farmakis, M. McMullan, A. Reyes, J. Laune, M. B. P. Adams, A. Armstrong, E. C. Hansen, Y. Lu, D. Michta, K. Moczulski, D. Lamb, and P. Tzeferacos, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Experimental Evidence of Early-Time Linear-Saturation of the Ion-Weibel Instability in Counterstreaming Plasmas," M. J. Manuel, M. Ghosh, R. Jonnalagadda, F. N. Beg, M. B. Adams, P. Tzeferacos, C. M. Huntington, B. Remington, J. S. Ross, D. D. Ryutov, H. W. Sio, G. F. Swadling, S. Wilks, and H.-S. Park, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Exploration of Magnetic-Field Generation via Biermann Battery Using the *FLASH* Code to Model Experiments Performed at UCLA's Phoenix Laboratory," M. B. P. Adams, P.-A. Gourdain, P. Tzeferacos, S. Feister, J. J. Pilgram, C. G. Constantin, and C. Niemann, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021

"Extended Magnetohydrodynamics in the *FLASH* Code," E. C. Hansen, M. B. P. Adams,

A. Armstrong, J. R. Davies, P. Farmakis, F. Garcia-Rubio, Y. Lu, D. Michta, K. Moczulski, C. Ren, A. C. Reyes, A. Sefkow, H. Wen, P. Tzeferacos, S. Langendorf, P. Ney, H. Rahman, and E. Ruskov, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"A Feasibility Study of Using X-Ray Thomson Scattering to Diagnose the In-Flight Plasma Conditions of DT Cryogenic Implosions," H. Poole, D. Cao, R. Epstein, I. Golovkin, T. Walton, S. X. Hu, M. Kasim, S. Vinko, J. R. Rygg, V. N. Goncharov, G. Gregori, and S. P. Regan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"First Demonstration of a Triton Beam Using Target Normal Sheath Acceleration," A. K. Schwemmlein, C. E. Fagan, W. T. Shmayda, M. Sharpe, C. Stoeckl, C. J. Forrest, S. P. Regan, and W. U. Schröder, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Fusion Neutron Energy Spectrum Measurements in Kinetic Plasmas," O. M. Mannion, C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. W. McKenty, Z. L. Mohamed, S. P. Regan, C. Stoeckl, B. D. Appelbe, A. J. Crilly, W. T. Taitano, B. Keenan, P. Adrian, J. Frenje, N. Kabadi, and M. Gatu Johnson, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Heterogeneous Plasma Physics Codes in TriForce: Progress and Next Steps," M. Burns, R. K. Follett, A. Bowman, S. Zhai, A. Poudel, S. Dwarkadas, S. Pai, and A. B. Sefkow, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"High Harmonic Generation Driven by a Flying Focus," J. P. Palastro, P. Franke, D. H. Froula, L. Nguyen, D. Ramsey, and T. T. Simpson, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"High-Power, High-Energy THz Generation with Joule and Kilojoule-Class Lasers," G. Bruhaug, H. G. Rinderknecht, M. S. Wei, D. T. Bishel, G. W. Collins, J. R. Rygg, Y. E, K. Garriga, X. C. Zhang, R. Smith, A. Necas, and K. Zhai, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"High-Resolution X-Ray Imaging of Shock-Driven Interface Instabilities," P. M. Nilson, F. J. Marshall, T. J. B. Collins, R. Epstein, D. T. Bishel, D. A. Chin, J. J. Ruby, J. Kendrick, D. Guy, S. T. Ivancic, C. Stoeckl, V. N. Goncharov, and D. H. Froula, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Hot-Electron Preheat in Hydrodynamically Scaled Direct-Drive Implosions at the

National Ignition Facility and OMEGA," M. J. Rosenberg, A. A. Solodov, A. R. Christopherson, R. Betti, P. B. Radha, C. Stoeckl, C. J. Forrest, V. Yu. Glebov, F. J. Marshall, S. P. Regan, T. J. B. Collins, D. H. Froula, J. P. Palastro, V. N. Goncharov, M. Hohenberger, B. Bachmann, G. N. Hall, P. Michel, and C. Krauland, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Hot-Electron Preheat and Mitigation in Polar-Direct-Drive Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, M. Stoeckl, R. Betti, W. Seka, R. Epstein, C. Stoeckl, R. K. Follett, P. B. Radha, S. P. Regan, D. H. Froula, J. P. Palastro, V. N. Goncharov, A. R. Christopherson, B. Bachmann, M. Hohenberger, P. Michel, and J. F. Myatt, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Impact of Bandwidth on the Electron Distribution Functions of Laser-Produced Plasmas," N. R. Shaffer, A. V. Maximov, V. N. Goncharov, and M. Sherlock, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Implementation of a 2D Unsplit Volume of Fluid (VOF) Interface-Capturing Method for Multifluid Compressible Flows in the *FLASH* Code," A. Reyes, M. B. P. Adams, A. Armstrong, K. Moczulski, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, P. Tzeferacos, J. Grove, and D. Q. Lamb, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Implementation and Verification of Braginskii Viscosity in the *FLASH* Code," A. Armstrong, A. Reyes, M. B. P. Adams, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, K. Moczulski, D. Q. Lamb, and P. Tzeferacos, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Implementation and Verification of LC Circuit for Z-Pinch *FLASH* Simulations," K. Moczulski, A. Reyes, M. B. P. Adams, A. Armstrong, P. Farmakis, E. C. Hansen, Y. Lu, D. Michta, D. Lamb, and P. Tzeferacos, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Improved First-Principles Equation-of-State Table of Deuterium for High-Energy Density Science Applications," D. I. Mihaylov, V. V. Karasiev, S. X. Hu, J. R. Rygg, V. N. Goncharov, and G. W. Collins, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Improving Performance and Understanding of Direct-Drive Inertial Fusion Implosions Using Statistical Modeling of Experimental Data," C. A. Williams, R. Betti,

V. Gopalaswamy, A. Lees, J. P. Knauer, C. J. Forrest, D. Patel, S. Sampat, R. T. Janezic, D. Cao, O. M. Mannion, P. B. Radha, S. P. Regan, R. C. Shah, C. A. Thomas, W. Theobald, and K. M. Woo, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Incorporating Quantum Electronics in Classical Calculations for Dense Plasmas," S. Chowdry, S. Zhang, S. X. Hu, and G. Kagan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Inference of Isotropic and Anisotropic Flow in Laser Direct-Drive Cryogenic DT Implosions on OMEGA," C. J. Forrest, D. Cao, V. N. Glebov, V. N. Goncharov, V. Gopalaswamy, J. P. Knauer, O. M. Mannion, Z. L. Mohamed, S. P. Regan, R. C. Shah, C. Stoeckl, and K. M. Woo, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Internal Perturbation Evolution and Amplification During the Early Phase of Inertial Confinement Fusion Implosions," S. C. Miller, V. N. Goncharov, T. J. B. Collins, and A. Shvydky, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Investigating the Stopping Power of Warm Dense Plasmas Using Time-Dependent Mixed Density-Functional Theory (TD-mDFT)," K. Nichols, A. J. White, L. A. Collins, and S. X. Hu, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Isotope Effects on High-Pressure Water," H. Pantell, L. E. Hansen, G. Tabak, M. F. Huff, G. Bruhaug, J. R. Rygg, and G. W. Collins, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Laser-Direct-Drive Cryogenic Implosion Performance on OMEGA Versus Target and Laser-Spot Radius," C. A. Thomas, W. Theobald, J. P. Knauer, C. Stoeckl, T. J. B. Collins, V. N. Goncharov, R. Betti, E. M. Campbell, K. S. Anderson, K. A. Bauer, D. Cao, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, T. Joshi, J. Kwiatkowski, A. Lees, F. J. Marshall, M. Michalko, Z. L. Mohamed, D. Patel, J. L. Peebles, P. B. Radha, S. P. Regan, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, T. C. Sangster, R. C. Shah, K. L. Baker, A. L. Kritcher, M. Tabak, M. C. Herrmann, A. R. Christopherson, and O. M. Mannion, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Laser-Direct-Drive Energy Coupling at $4 \times 10^{14}$ W/cm$^2$ to $1.2 \times 10^{15}$ W/cm$^2$ from Spherical Solid-Plastic Implosions at the National Ignition Facility," W. Theobald, M. J. Rosenberg, P. B. Radha, S. P. Regan, C. Stoeckl, L. Ceurvorst, R. Betti, K. S. Anderson,

J. A. Marozas, V. N. Goncharov, E. M. Campbell, C. M. Shuldberg, R. W. Luo, W. Sweet, D. N. Kaczala, B. Bachmann, T. Döppner, M. Hohenberger, R. Scott, and A. Colaïtis, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"A Local-Field Approach to Understanding Multibeam Laser-Plasma Instabilities," R. K. Follett, H. Wen, J. G. Shaw, D. H. Froula, A. V. Maximov, A. A. Solodov, D. Turnbull, J. P. Palastro, J. F. Myatt, and J. W. Bates, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Low-Mode Asymmetry Induced by Polarized Cross-Beam Energy Transfer Interaction in Laser-Direct-Drive Spherical Implosions on OMEGA," A. Colaïtis, D. H. Edgell, I. V. Igumenshchev, D. Turnbull, J. P. Palastro, R. K. Follett, V. N. Goncharov, and D. H. Froula, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Magnetized Collisionless Shock Formation Mediated by the Modified-Two-Stream Instability," Y. Zhang, P. V. Heuer, J. R. Davies, and C. Ren, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Magnetohydrodynamic Instabilities in Ablation Fronts and Coronal Plasmas," F. García-Rubio, R. Betti, J. Sanz, and H. Aluie, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021 (invited).

"A Many-Body Extension to Madelung Quantum Hydrodynamics," D. Michta, P. Tzeferacos, F. Graziani, and G. W. Hammett, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Measurement of Hot-Electron-Driven Fast Ions in Polar-Direct Drive Exploding Pusher Implosions at the NIF," M. Gatu Johnson, P. J. Adrian, J. A. Frenje, T. M. Johnson, N. Kabadi, B. G. Lahmann, R. Petrasso, W. J. Garbett, R. S. Craxton, M. Hohenberger, H. D. Whitley, C. B. Yeamans, and A. B. Zylstra, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Measurements of Laser-Preheat–Induced Mix in Scaled Magnetized Liner Inertial Fusion (MagLIF) Implosions," J. L. Peebles, J. R. Davies, D. H. Barnak, P. V. Heuer, L. S. Leal, F. J. Marshall, V. Yu. Glebov, and R. Betti, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Measurements of the Return-Current Instability with Ion-Acoustic Thomson Scattering," A. L. Milder, J. Katz, J. P. Palastro, D. H. Edgell, A. M. Hansen, D. Turnbull, D. H. Froula, M. Sherlock, and W. Rozmus, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Measurements of Shock-Release Dynamics in Polystyrene Foils," A. Lees, D. Barnak, R. Betti, V. Gopalaswamy, A. Shvydky, and Z. K. Sprowal, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Measurements of Sound Speed in Iron Shock-Compressed Iron to ~3000 GPa," M. Huff, J. R. Rygg, G. W. Collins, T. R. Boehly, D. N. Polsin, M. Nakajima, B. J. Henderson, M. C. Marshall, T. A. Suer, D. E. Fratanduono, M. Millot, R. F. Smith, C. A. McCoy, and L. E. Hansen, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Mitigating Deceleration Rayleigh–Taylor Growth in Inertial Confinement Fusion Designs," V. N. Goncharov, I. V. Igumenshchev, W. Trickey, N. Shaffer, K. M. Woo, T. J. B. Collins, E. M. Campbell, and Y. Lawrence, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Mitigation of Inflationary Stimulated Raman Scattering with Laser Bandwidth," H. Wen, R. K. Follett, A. V. Maximov, and J. P. Palastro, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Mitigation of the Kelvin-Helmholtz Instability in HED Conditions by a Strong External Magnetic Field," A. Casner, V. Bouffetier, L. Ceurvorst, G. Perez Callejo, T. Goudal, H. W. Sio, J. L. Peebles, P. Tzeferacos, V. Smalyuk, and O. A. Hurricane, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Mix, Temperature, and Compression of Statistical Model Optimized Cryogenic Implosions," R. C. Shah, D. Cao, R. Epstein, M. J. Rosenberg, W. Theobald, V. Gopalaswamy, R. Betti, S. P. Regan, P. Volegov, and B. Bachmann, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"National Ignition Facility Planar Imprint Experiments," A. Shvydky, J. L. Peebles, M. J. Rosenberg, A. V. Maximov, K. S. Anderson, V. N. Goncharov, J. A. Marozas, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, M. Hohenberger, J. M. Di Nicola, J. M. Koning, M. M. Marinak, L. Masse, M. Karasik, and L. Antonelli, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"National Ignition Facility (NIF) Polar-Direct-Drive Exploding-Pusher Experiments—Improving Performance via Imprint Mitigation," J. A. Marozas, P. W. McKenty, T. J. B. Collins, M. J. Rosenberg, H. G. Rinderknecht, S. P. Regan, E. M. Campbell, C. B. Yeamans, B. E. Blue, L. Divol, G. E. Kemp, and H. D. Whitley, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Nonlinear Thomson Scattering with Ponderomotive Control," D. Ramsey, P. Franke, D. H. Froula, T. T. Simpson, K. Weichman, J. P. Palastro, B. Malaca, M. Pardal, J. Vieira, A. Di Piazza, and M. Formanek, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Nonuniformity in Direct-Drive Implosions Caused by Polarization Smoothing," D. H. Edgell, A. Colaitis, R. S. Craxton, R. K. Follett, M. J. Guardalben, A. Kalb, J. Katz, J. Kwiatkowski, O. M. Mannion, P. B. Radha, A. Shvydky, C. Stoeckl, D. Turnbull, and D. H. Froula, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021 (invited).

"Numerical Modeling of Laser-Driven Plasma Experiments Aiming to Study Turbulent Dynamo and Thermal Conduction at the National Ignition Facility," Y. Lu, S. Feister, J. Meinecke, F. Miniati, G. Gregori, A. Bott, A. Reyes, E. C. Hansen, J. T. Laune, B. Reville, J. S. Ross, D. Q. Lamb, and P. Tzeferacos, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Optical Shock-Enhanced Self-Photon Acceleration," P. Franke, D. Ramsey, T. T. Simpson, D. Turnbull, D. H. Froula, and J. P. Palastro, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Optimization of Beam-Port Configurations to Minimize Low-Mode Perturbations in High-Yield Inertial Confinement Fusion Targets," W. Trickey, V. N. Goncharov, E. M. Campbell, T. J. B. Collins, M. J. Rosenberg, N. Shaffer, W. Theobald, R. C. Shah, A. Shvydky, I. V. Igumenshchev, A. Colaitis, S. Atzeni, and L. Savino, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Overview of TriForce: Projects, Progress, and Plans," A. B. Sefkow, J. G. Shaw, A. Kish, M. Lavell, R. Masti, A. Sexton, S. Borve, A. Bowman, M. Burns, J. Carroll-Nellenback, S. Cohen, J. R. Davies, S. Dwarkadas, E. Evans, R. K. Follett, M. Haddad, K. Hemsley, A. Kokash, Y. Lawrence, B. G. Logan, R. L. McCrory, A. Nahar, J. H. Nuckolls, S. Pai, A. Poudel, T. Seabourne, W. Scullin, S. Sikorski, A. Srinivasan, H. Stojkovic, A. Velberg, K. Yanik, and S. Zhai, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA,

8–12 November 2021.

"A Pathway Towards Burning Plasmas Through Low-Convergence-Ratio Direct Drive ICF Implosions," R. W. Paddock, R. H. Scott, W. J. Garbett, B. M. Haines, A. B. Zylstra, T. J. B. Collins, R. S. Craxton, and P. A. Norreys, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"PIC Simulations of Colliding Plasma Jets in Plasma Liner Experiment," C. Ren, H. Wen, E. C. Hansen, S. J. Langendorf, D. Michta, and P. Tzeferacos, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Plasma Characterization for Raman Amplification," K. R. McMillen, M. V. Ambat, Z. Barfield, J. Pigeon, D. Haberberger, D. H. Froula, and J. L. Shaw, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Plasma Waves and the Compressibility of Warm Dense Hydrogen," J. R. Rygg, G. W. Collins, and P. M. Celliers, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Predicting Hot Electron Generation in Inertial Confinement Fusion with Particle-in-Cell Simulations," S. H. Cao, R. Betti, V. Gopalaswamy, H. Huang, D. Patel, C. Ren, M. J. Rosenberg, A. Shvydky, C. Stoeckl, and H. Wen, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Probing Extreme Atomic Physics at Petapascal Pressures," S. X. Hu, P. M. Nilson, D. T. Bishel, D. A. Chin, V. V. Karasiev, I. E. Golovkin, M. Gu, T. Walton, and S. B. Hansen, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Probing a New Regime of Extreme Chemistry at High-Energy-Density Conditions: Na as a Prototypical Example," D. N. Polsin, X. Gong, M. F. Huff, L. E. Hansen, B. J. Henderson, R. Paul, S. Burns, G. W. Collins, J. R. Rygg, A. Lazicki, F. Coppari, R. Smith, M. Millot, J. H. Eggert, M. I. McMahon, X. Wang, K. Hilleke, and E. Zurek, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021 (invited).

"Proton Radiography of Self-Generated Magnetic Fields in Laser-Driven Cylindrical Implosions," P. V. Heuer, L S. Leal, J. R. Davies, E. C. Hansen, D. H. Barnak, J. L. Peebles, and A. Birkel, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Relativistically Transparent Magnetic Filament: A Laser-Plasma Platform for Efficient

Electron Acceleration & MeV Photon Radiation," H. G. Rinderknecht, M. S. Wei, G. Bruhaug, K. Weichman, J. P. Palastro, J. D. Zuegel, A. Arefiev, T. Wang, T. Toncian, A. Laso Garcia, D. Doria, K. Spohr, H. J. Quevedo, T. Ditmire, J. Williams, A. Haid, and D. Stutman, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Resistivity and Heat Conduction Modeling in Capillary Discharges," A. Diaw, N. M. Cook, S. Coleman, J. P. Edelen, E. C. Hansen, and P. Tzeferacos, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Revealing the Atomic Motion Composing the B1-B2 Structural Transformation of MgO Under High Pressures," B. McLellan, S. Zhang, and S. X. Hu, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Schlieren Refraction Measurements of Implosion Density Profiles," D. Haberberger, A. Shvydky, S. T. Ivancic, V. N. Goncharov, C. Stoeckl, and D. H. Froula, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Shock-Augmented Ignition Using Indirect Drive," W. Trickey, R. H. H. Scott, and N. Woolsey, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"S-Factor Measurements for Gamma-Channel Fusion Reactions," Z. L. Mohamed, J. P. Knauer, A. Sorce, R. B. Brannon, R. T. Janezic, W. T. Shmayda, Y. H. Kim, K. Meaney, H. Geppert-Kleinrath, N. M. Hoffman, M. S. Rubery, A. B. Zylstra, and J. Jeet, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Simulations of Ti-Layered Magnetized Liner Inertial Fusion Implosions on OMEGA Investigating the Effect of Mix," L. S. Leal, J. L. Peebles, D. H. Barnak, J. R. Davies, A. V. Maximov, E. C. Hansen, P. V. Heuer, A. B. Sefkow, and R. Betti, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Software Architecture Design for Modular Multiphysics Simulations," A. Kish, J. G. Shaw, M. Lavell, A. Sexton, and A. B. Sefkow, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Spatiotemporal Control of Laser Intensity Through Cross-Phase Modulation," T. T. Simpson, D. Ramsey, P. Franke, M. V. Ambat, K. Weichman, D. Turnbull, D. H. Froula, and J. P. Palastro, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Species Separation in Polystyrene Shock Release Evidenced by Molecular-Dynamics Simulations and Laser-Drive Experiments," S. Zhang, M. C. Marshall, J. R. Rygg, A. Shvydky, D. Haberberger, V. N. Goncharov, T. R. Boehly, G. W. Collins, S. X. Hu, D. E. Fratanduono, and A. Lazicki, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Strong Suppression of Heat Conduction in Laser-Driven Magnetized Turbulent Plasmas," P. Tzeferacos, A. Reyes, Y. Lu, A. Armstrong, K. Moczulski, G. Gregori, J. Meinecke, H. Poole, L. Chen, T. Campbell, A. Bell, S. Sarkar, F. Miniati, A. Schekochihin, D. Lamb, D. H. Froula, J. Katz, D. Haberberger, D. Turnbull, S. Fess, H.-S. Park, J. S. Ross, T. Doeppner, J. Emig, C. Goyon, D. Ryutov, B. Remington, A. Zylstra, C.-K. Li, A. Birkel, R. Petrasso, H. Sio, F. Seguin, A. F. A. Bott, C. Palmer, B. Khiar, S. Feister, A. Casner, D. Ryu, B. Reville, C. Forest, J. Foster, Y. Sakawa, F. Fiuza, E. Churazov, R. Bingham, T. White, and E. Zweibel, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Studying Quasi-Parallel Collisionless Shocks in the Laboratory," P. V. Heuer, Y. Zhang, C. Ren, J. R. Davies, D. B. Schaeffer, M. S. Weidl, C. Niemann, W. Fox, and D. Caprioli, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Systematic Trends of Hot-Spot Flow Velocity in Laser-Direct-Drive Implosions on OMEGA," S. P. Regan, O. M. Mannion, C. J. Forrest, H. McClow, Z. L. Mohamed, A. Kalb, J. Kwiatkowski, J. P. Knauer, C. Stoeckl, R. C. Shah, V. Yu. Glebov, W. Theobald, K. Churnetski, R. Betti, V. Gopalaswamy, H. G. Rinderknecht, I. V. Igumenshchev, P. B. Radha, V. N. Goncharov, D. H. Edgell, J. Katz, D. Turnbull, D. H. Froula, M. J. Bonino, D. R. Harding, C. M. Shuldberg, R. W. Luo, M. Hoppe, A. Colaïtis, and E. M. Campbell, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Theory and Modeling of Blast-Wave–Driven Interfacial Hydrodynamic Instability in OMEGA Planar Experiments," T. J. B. Collins, P. M. Nilson, R. Epstein, D. T. Bishel, D. A. Chin, J. J. Ruby, J. Kendrick, D. Guy, S. T. Ivancic, F. J. Marshall, C. Stoeckl, V. N. Goncharov, and D. H. Froula, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Thermal Emission and Reflectivity of Shocked $SiO_2$ Aerogel for Broadband Optical Probing," B. J. Henderson, M. C. Marshall, J. R. Rygg, D. N. Polsin, L. E. Hansen, M. K. Ginnane, and G. W. Collins, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Three-Dimensional Hot-Spot Reconstruction from Cryogenic DT Polar-Direct-Drive

Implosions on OMEGA," K. Churnetski, K. M. Woo, W. Theobald, P. B. Radha, R. Betti, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, M. Michalko, R. C. Shah, C. Stoeckl, C. A. Thomas, and S. P. Regan, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Three-Dimensional Hot-Spot Reconstruction in Inertial Fusion Implosions," K. M. Woo, R. Betti, C. A. Thomas, C. Stoeckl, K. Churnetski, C. J. Forrest, Z. L. Mohamed, B. Zirps, S. P. Regan, T. J. B. Collins, W. Theobald, R. C. Shah, O. M. Mannion, D. Patel, D. Cao, J. P. Knauer, V. N. Goncharov, P. B. Radha, H. G. Rinderknecht, R. Epstein, V. Gopalaswamy, and F. J. Marshall, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Transport Coefficient Sensitivities in a Semi-Analytic Model for MagLIF," Y. Lawrence, R. D. McBride, and A. B. Sefkow, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Understanding Origins of Observed Fusion-Yield Dependencies for Direct-Drive Implosions on OMEGA," D. Cao, R. C. Shah, C. A. Thomas, A. Lees, V. Gopalaswamy, R. Betti, D. Patel, W. Theobald, J. P. Knauer, P. B. Radha, C. Stoeckl, S. P. Regan, W. Scullin, T. J. B. Collins, and V. N. Goncharov, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Understanding Shock-Release Experiments Using a Numerical Simulation of VISAR," D. H. Barnak, R. Betti, V. Gopalaswamy, A. Lees, and A. Shvydky, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Utilizing Implosions to Constrain Atomic Physics of Gbar Materials," D. T. Bishel, P. M. Nilson, D. A. Chin, J. J. Ruby, E. Smith, S. X. Hu, J. R. Rygg, G. W. Collins, and E. V. Marley, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Validation of Energy Coupling Models from kJ to MJ Scale," P. B. Radha, C. Stoeckl, W. Theobald, M. J. Rosenberg, M. Porcelli, R. Betti, E. M. Campbell, D. H. Edgell, V. N. Goncharov, J. P. Knauer, S. P. Regan, A. Shvydky, and A. A. Solodov, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"X-Ray Diffraction Measurements of Shocked and Shock-Ramped Platinum," M. K. Ginnane, D. N. Polsin, X. Gong, M. C. Marshall, T. R. Boehly, J. R. Rygg, G. W. Collins, A. Lazicki, R. Kraus, J. H. Eggert, D. E. Fratanduono, J. P. Davis, C. A. McCoy, C. Seagle, and S. Root, presented at the 63rd Annual Meeting of the American Physical

Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"X-Ray Diffraction of Ramp Compressed Silicon," X. Gong, D. N. Polsin, R. Paul, M. C. Marshall, M. K. Ginnane, B. J. Henderson, J. R. Rygg, G. W. Collins, and J. H. Eggert, presented at the 63rd Annual Meeting of the American Physical Society Division of Plasma Physics, Pittsburgh, PA, 8–12 November 2021.

"Measurement of Palladium Hydride Isotherms Using $H_2$, $D_2$, and $H_2/D_2$ Mixtures," M. Sharpe and W. T. Shmayda, presented at the 42nd Tritium Focus Group, Los Alamos, NM, 2–3 November 2021.

"The SPARC Tritium Fuel Cycle," W. T. Shmayda, H. Mutha, and K. Ryan, presented at the 42nd Tritium Focus Group, Los Alamos, NM, 2–3 November 2021.

"A Vision for the Future for High-Power Laser Research and Applications," E. M. Campbell, presented at OPTICSMEET 2021, Nice, France, 1–3 November 2021.

"Simultaneous Spectral Broadening and Contrast Improvement Using Divided-Pulse Nonlinear Compression," G. W. Jenkins, C. Feng, and J. Bromage, presented at the Industrial Associates Meeting, Rochester, NY, 20–22 October 2021.

"Ultrabroadband Spintronic THz Emitters Excited by Femtosecond Laser Pulse," G. Chen, R. Adam, D. E. Bürgler, J. Cheng, D. Chaktraborty, I. Komissarov, S. Heidtfeld, D. Cao, H. Hardtdegen, M. Mikulics, A. Alostaz, F. Wang, M. Büscher, C. M. Schneider, L. Gladczuk, P. Przysłupki, and R. Sobolewski, presented at the Industrial Associates Meeting, Rochester, NY, 20–22 October 2021.

"Big Computers and Big Lasers: How Concerted Numerical Simulations and Laser-Driven Laboratory Experiments Can Shed Light on Fundamental Astrophysical Processes in Turbulent Magnetized Plasmas," P. Tzeferacos, presented at CIRC Symposium, Rochester, 15 October 2021.

"The Effect of Incident Polarization Handedness and Ellipticity on the Laser-Damage Resistance of Oriented Liquid Crystals in the Nanosecond Regime," K. L. Marshall, K. R. P. Kafka, N. D. Urban, J. U. Wallace, and S. G. Demos, presented at Laser Damage, virtual, 12–15 October 2021.

"Embedded Contamination Induced by Etching in E-Beam-Deposited Silica: A Possible Precursor to Laser Damage," R. Dent, B. N. Hoffman, A. A. Kozlov, N. Liu, A. L. Rigatti, S. G. Demos, and A. A. Shestopalov, presented at Laser Damage, virtual, 12–15 October 2021.

"The Impact of Intensity Fluctuations on Laser Damage," D. Broege, S. G. Demos, C. Dorrer, K. R. P. Kafka, and M. Spilatro, presented at Laser Damage, virtual, 12–15 October 2021.

"Large-Area, Multi-Pulse Laser Lifetime of Purified Nematic Liquid Crystals at Near-Infrared Wavelengths," S. Elhadj, C. Gavin, A. Bayramian, W. Clauson, M. Murachver, J. Jarboe, D. Kissinger, C. LeBlanc, N. Urban, J. Wallace, S. Demos, and K. L. Marshall, presented at Laser Damage, virtual, 12–15 October 2021.

"Methods and Apparatus for Laser Damage and Functional Performance Characterization of Ultrafast Laser Optics," K. R. P. Kafka, T. Z. Kosc, and S. G. Demos, presented at Laser Damage, virtual, 12–15 October 2021.

"Minimizing Risk for Laser Damage Due to Transverse Stimulated Raman Scattering in Large-Aperture KDP/DKDP Plates for Polarization Control at $3\omega$," T. Z. Kosc, S. G. Demos, T. J. Kessler, H. Huang, A. Maltsev, R. Negres, and J. C. Lambropoulos, presented at Laser Damage, virtual, 12–15 October 2021.

"Monolayer Organic Thin Films as Contamination-Resistant Coatings in Optical Elements," R. Jia, B. N. Hoffman, A. A. Kozlov, S. G. Demos, and A. A. Shestopalov, presented at Laser Damage, virtual, 12–15 October 2021.

"XANES and EXAFS Progress Studying Compressed Iron Oxides on OMEGA," D. A. Chin, P. M. Nilson, D. T. Bishel, E. Smith, X. Gong, M. K. Ginnane, B. J. Henderson, D. N. Polsin, T. R. Boehly, J. R. Rygg, G. W. Collins, D. Trail, A. Amouretti, M. Harmand, O. Mathon, R. Torchio, J. J. Ruby, F. Coppari, A. Coleman, and Y. Ping, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, virtual, 12–13 October 2021.

"First Demonstration of a Triton Beam Using Target Normal Sheath Acceleration," A. K. Schwemmlein, C. Fagan, W. T. Shmayda, M. Sharpe, C. Stoeckl, C. J. Forrest, S. P. Regan, and W. U. Schröder, presented at the American Physical Society Division of Nuclear Physics, Boston, MA, 10–14 October 2021.

"Simultaneous Spectral Broadening and Contrast Improvement Using Divided-Pulse Nonlinear Compression," G. W. Jenkins, C. Feng, and J. Bromage, presented at Advanced Solid-State Lasers, Ontario, Canada, 3–7 October 2021.

"Spatially Resolved Characterization of Partially Deuterated KDP Crystals for Parametric Amplification," C. Dorrer, I. A. Begishev, S.-W. Bahk, and J. Bromage, presented at Advanced Solid-State Lasers, Ontario, Canada, 3–7 October 2021.

"Versatile Spectral Shaping of Spectrally Incoherent Pulses in the IR and UV," M. Spilatro and C. Dorrer, presented at Advanced Solid-State Lasers, Ontario, Canada, 3–7 October 2021.

"Inferring Absolute Neutron Energy Spectra from Time-of-Flight Spectrometers Operating in Current Mode," C. J. Forrest, A. Crilly, B. Applebe, V. Yu. Glebov, J. P. Knauer, O. M. Mannion, Z. L. Mohamed, P. B. Radha, S. P. Regan, A. K. Schwemmlein, and C. Stoeckl, presented at the Neutron Detector Workshop, Knoxville, TN,

30 September–2 October 2021.

"Effects of Kilotesla-Level Magnetic Fields on Relativistic Laser-Plasma Interaction," K. Weichman, A. V. Arefiev, H. Mao, F. N. Beg, J. P. Palastro, A. P. L. Robinson, M. Murakami, S. Fujioka, J. J. Santos, T. Toncian, Y. Shi, T. Ditmire, H. Quevedo, and V. V. Ivanov, presented at the 5th Asia Pacific Conference on Plasma Physics, virtual, 26 September–1 October 2021 (invited).

"Probing Extreme Atomic Physics of Warm and Superdense Plasmas," S. X. Hu, P. M. Nilson, V. V. Karasiev, D. Bishel, V. Recoules, N. Brouwer, M. Torrent, I. E. Golovkin, M. Gu, T. Walton, and S. B. Hansen, presented at the 5th Asia Pacific Conference on Plasma Physics, virtual, 26 September–1 October 2021 (invited).

"TDYNO: Laser-Driven Laboratory Plasma Astrophysics Experiments of Magnetized Turbulence and Fluctuation Dynamo," P. Tzeferacos, presented at the 5th Asia Pacific Conference on Plasma Physics, virtual, 26 September–1 October 2021.

"Molecular to Atomic Transition in Liquid Silica at Extreme Conditions," S. Zhang, presented at the Emerging Leader Celebration, virtual, 20–21 September 2021.

"MTW-OPAL: A Technology Development Platform for Ultra-Intense OPCPA Systems," C. Dorrer, J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, E. M. Schiesser, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented at Topical Problems of Nonlinear Wave Physics, virtual, 19–22 September 2021.

"Multi-Megabar Phase Transitions from First Principles-Examples in MgO and Fe," S. Zhang, R. Paul, M. Ghosh, S. X. Hu, L. E. Hansen, J. R. Rygg, G. W. Collins, M. Morales, F. Malone, and D. E. Fratanduono, presented at the CMAP Seminar, virtual, 17 September 2021.

"Inertial Fusion Energy (IFE): Opportunities and Challenges," E. M. Campbell, presented at the Fusion Energy Council of Canada AGM, virtual, 15 September 2021.

"Measurements of Electron Distribution Functions with Angularly Resolved Thomson Scattering," D. H. Froula, presented at the Department of Energy, 15 September 2021.

"2021 Multi-Petawatt Physics Prioritization (MP3) Workshop," J. D. Zuegel, presented at the 4th Extremely High Intensity Laser Physics Conference, virtual, 13–17 September 2021.

"Studies on Dynamical Shell Formation for Direct-Drive Laser Fusion," L. Savino, S. Atzeni, V. N. Goncharov, and I. V. Igumenshchev, presented at the 107th Italian Physical Society Conference, virtual, 13–17 September 2021.

"Pulsed-Power Innovations Needed for Next-Generation, High-Current Drivers," R. B. Spielman, presented at the 48th IEEE International Conference on Plasma Science, virtual, 12–16 September 2021.

"Laboratory for Laser Energetics (LLE) Comments on HIBEF Dedication," E. M. Campbell, presented at the HIBEF Inauguration, virtual, 31 August 2021.

"Taming Plasmas and Controlling Laser Beams for Grand Challenge Applications," D. H. Froula, presented at the FESAC Meeting, virtual, 30 August 2021.

"NAS Study on High Energy Density Science," E. M. Campbell, presented at the NAS Site Visit, virtual, 26 August 2021.

"'First Light' Results from MTW-OPAL: An All-OPCPA Platform for Laser Development and Petawatt Science," S.-W. Bahk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, M. J. Shoup III, M. Spilatro, B. Webb, J. D. Zuegel, and J. Bromage, presented at the 2021 LaserNetUS User Meeting, virtual, 17–19 August 2021.

"Inertial Fusion Energy (IFE): Opportunities and Challenges," E. M. Campbell, presented at the 2021 LaserNetUS User Meeting, virtual, 17–19 August 2021.

"Parametric Amplification of Spectrally Incoherent Signals," C. Dorrer, presented at the Nonlinear Optics Topical Meeting, virtual, 9–13 August 2021.

"Improved First-Principles Equation-of-State Table of Deuterium," D. Mihaylov, V. V. Karasiev, S. X. Hu, J. R. Rygg, V. N. Goncharov, and G. W. Collins, presented at GSCCM Early Career Symposium, virtual, 3–4 August 2021.

"Three-Dimensional Hot-Spot Reconstruction from Cryogenic Deuterium–Tritium Polar-Direct-Drive Implosions on OMEGA," K. Churnetski, K. M. Woo, W. Theobald, P. B. Radha, R. Betti, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, M. Michalko, R. C. Shah, C. A. Thomas, and S. P. Regan, presented at HEDS Summer School, virtual, 2–6 August 2021.

"Toward High-Performance Terahertz-Region Liquid Crystals: Computational Modeling of Fused-Ring Nematic and Discotic Mesogens," K. L. Marshall, B. E. Ugur, and W. Scullin, presented at Liquid Crystals XXV, virtual, 1–5 August 2021(invited).

"Overview of Tritium Handling," W. T. Shmayda, presented at the Nevada National Security Site, virtual, 14 July 2021.

"Inertial Confinement Fusion: Present State of Research for Energy Demonstration and Potential Spin-Offs," E. M. Campbell, presented at Curso de Verano de la Universidad Complutense de Madrid (UCM) El Escorial, virtual, 12–13 July 2021.

"A Vision of the Future for High-Power Laser Research and Its Applications," E. M. Campbell, presented at Frontiers in Lasers and Applications, virtual, 5–29 July 2021.

"Charged-Particle Radiography with PlasmaPy," presented at Plasma Hack Week, P. Heuer, virtual, 28 June–2 July 2021.

"Laboratory for Laser Energetics (LLE): Today and Tomorrow," E. M. Campbell, presented at the Pulsed-Power Sciences Center, virtual, 23 June 2021.

"Cross-Beam Energy Transfer Saturation," A. M. Hansen, K. L. Nguyen, D. Turnbull, R. K. Follett, R. Huff, J. Katz, D. Mastrosimone, A. L. Milder, J. P. Palastro, D. H. Froula, B. Albright, and L. Yin, presented at the 47th European Physical Society Conference on Plasma Physics, virtual, 21–25 June 2021.

"Spatiotemporal Control of Laser Pulses for Broadband Extreme Ultraviolet Generation," P. Franke, J. P. Palastro., D. Turnbull, D. Ramsey, T. T. Simpson, J. L. Shaw, M. V. Ambat, J. Katz, I. A. Begishev, R. Boni, J. Bromage, K. Daub, J. B. Oliver, C. Dorrer, D. H. Froula, S. Jolly, F. Quere, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieira, A. Di Piazza, A. Howard, A. Arefiev, T. M. Antonsen, Jr., and Z. Li, presented at the 47th European Physical Society Conference on Plasma Physics, virtual, 21–25 June 2021.

"MTW-OPAL - a Technology Development Platform for Ultra-Intense OPCPA Systems," J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, E. M. Schiesser, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented at EQEC, virtual, 20–24 June 2021.

"Laboratory for Laser Energetics (LLE): Supporting OES Strategic Goals," E. M. Campbell, presented at the OES Executive Meeting, virtual, 15–16 June 2021.

"Charged-Particle Radiography with PlasmaPy," presented at the Summer Undergraduate Laboratory Internship Summer School, P. Heuer, virtual, 14–25 June 2021.

"Fundamentals of Tritium Handling," W. T. Shmayda, presented at TRANSAT Second Tritium School, virtual, 14–16 June 2021.

"Relativistically Transparent Magnetic Filaments as a Gamma-Ray Source for All-Optical Nuclear Photonics," H. G. Rinderknecht, M. S. Wei, G. Bruhaug, K. Weichmann, J. P. Palastro, J. D. Zuegel, A. Arefiev, T. Wang, T. Toncian, A. Laso Garcia, D. Doria, K. Spohr, H. J. Quevedo, T. Ditmire, J. Williams, A. Haid, and D. Stutman, presented at Nuclear Photonics 2021, virtual, 7–9 June 2021.

"*FLASH*: A Simulation Code for HEDP and Innovative Fusion Concepts," P. Tzeferacos, A. Reyes, E. C. Hansen, Y. Lu, D. Michta, M. P. A. Adams, C. J. Armstrong, K. Moczulski, and D. Q. Lamb, presented at the ARPA-E Summit, virtual,

24–27 May 2021.

"The LLE Diagnostic Resource Team for Innovative Fusion Concepts," J. R. Davies, C. J. Forrest, V. Yu. Glebov, J. P. Knauer, and H. McClow, presented at the ARPA-E Summit, virtual, 24–27 May 2021.

"A Simulation Source for Innovative Fusion Concepts in the BETHE Program," P. Tzeferacos, R. Betti, J. R. Davies, F. Garcia-Rubio, E. C. Hansen, D. Michta, C. Ren, A. C. Reyes, W. Scullin, A. B. Sefkow, J. G. Shaw, H. Wen, and K. M. Woo, presented at the ARPA-E Summit, virtual, 24–27 May 2021.

"Analysis of Pump-to-Signal Noise Transfer in Multi-Stage Optical Parametric Chirped-Pulse Amplification," C. Feng, C. Dorrer, C. Jeon, R. Roides, B. Webb, and J. Bromage, presented at CLEO 2021, virtual, 9–14 May 2021.

"Broadband Sum-Frequency Generation in a Novel Angularly Dispersed Noncollinear Geometry," C. Dorrer, M. Spilatro, T. Borger, S. Herman, and E. M. Hill, presented at CLEO 2021, virtual, 9–14 May 2021.

"Effect of Pump Beam on the Amplified Signal Wavefront in DKDP Optical Parametric Amplification," S.-W. Bahk, I. A. Begishev, B. Webb, C. Jeon, R. G. Roides, C. Feng, M. Spilatro, R. Cuffney, C. Dorrer, C. Mileham, S. Bucht, and J. Bromage, presented at CLEO 2021, virtual, 9–14 May 2021.

"MTW-OPAL: A Technology Development Platform for Ultra-Intense All-OPCPA Systems," J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, E. M. Schiesser, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented at CLEO 2021, virtual, 9–14 May 2021.

"Spatially Resolved Characterization of Partially Deuterated KDP Crystals for Parametric Amplification," C. Dorrer, I. A. Begishev, S.-W. Bahk, and J. Bromage, presented at CLEO 2021, virtual, 9–14 May 2021.

"Extended MHD with *FLASH*: A Numerical Toolset for Magnetized Plasma Experiments," P. Tzeferacos, presented at the Center for Matter Under Extreme Conditions Seminar, virtual, 5 May 2021.

"Laser Fusion: Present Status and the Path to Fusion Energy," E. M. Campbell, presented at Cornell University, virtual, 5 May 2021.

"2020 Review of Inertial Confinement Fusion Approaches: The Research Path to Ignition," S. P. Regan, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Commissioned MTW-OPAL Laser and Proposed 2 × 25 PW EP-OPAL Laser,"

J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, E. M. Schiesser, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, J. D. Zuegel, D. H. Froula, J. L. Shaw, P. M. Nilson, H. G. Rinderknecht, L. J. Waxer, J. C. Puth, and E. M. Hill, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Extreme Matters: Pressure to Explore New Worlds and Exotic Solids," G. W. Collins, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"The *FLASH* Code for Computational High-Energy-Density Physics-Recent Additions and Improvements," P. Tzeferacos, A. Reyes, E. C. Hansen, Y. Lu, D. Michta, M. P. A. Adams, C. J. Armstrong, K. Moczulski, and D. Q. Lamb, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"High-Order Implicit-Explicit ADER-RK Methods for Hyperbollic Systems with Stiff Source Terms in the *FLASH* Code," A. Reyes and P. Tzeferacos, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Implicit Anisotropic Magnetic Resistivity in the *FLASH* Code," E. C. Hansen, A. C. Reyes, M. B. P. Adams, J. Carroll-Nellenback, J. R. Davies, K. Weide, D. Q. Lamb, and P. Tzeferacos, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Monte Carlo Simulations for Proton Radiography in High-Energy-Density Plasma Experiments," Y. Lu, H. Li, K. Flippo, K. Kelso, A. Liao, S. Li, E. Liang, and P. Tzeferacos, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Observations of the Modulations Associated with the 60-Beam Overlap in X-Ray Self-Emission Images of Directly Driven Implosions," T. R. Joshi, R. C. Shah, W. Theobald, I. V. Igumenshchev, D. Cao, and S. P. Regan, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Omega Basic Science User Programs Update," M. S. Wei, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Omega Facility OLUG 2021 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Open Source High-Energy-Density—Physics Diagnostic Tools in PlasmaPy," P. V. Heuer, D. Stanczak, E. T. Everson, N. A. Murphy, and J. R. Davies, presented at the Omega Laser Facility Users Group 2021 Workshop, virtual, 27–30 April 2021.

"Laser-Plasma Interactions Driven by Spatiotemporally Structured Light Pulses," J. P. Palastro, D. H. Froula, M. Ambat, E. M. Campbell, R. K. Follett, P. Franke, V. N. Goncharov, D. Ramsey, J. L. Shaw, T. T. Simpson, D. Turnbull, K. Weichman, H. Wen, S. Jolly, F. Quere, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieira, A. Di Piazza, A. Howard, A. Arefiev, T. M. Antonsen, Jr., and Z. Li, presented at the Bothe Colloquium, virtual, 21 April 2021.

"Generating a TNSA Trition Beam on OMEGA," A. K. Schwemmlein, C. Stoeckl, W. T. Shmayda, C. J. Forrest, J. P. Knauer, S. P. Regan, and W. U. Schröder, presented at APS April Meeting, virtual, 17–20 April 2021.

"JASON Briefing," S. P. Regan, presented at JASON, virtual, 15 April 2021.

"Laser Fusion: Present Status and the Path to Fusion Energy," E. M. Campbell, presented at Cornell Energy Seminar, Cornell, NY, 15 April 2021.

"MTW-OPAL: A Technology Development Platform for Ultra-Intense OPCPA Systems," J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, C. Jeon, C. Mileham, R. G. Roides, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented the 4th International Symposium on High Power Laser Science and Engineering, virtual, 11–16 April 2021.

"A Vision of the Future for High-Power Laser Research and Its Applications," E. M. Campbell, presented at the 4th International Symposium on High Power Laser Science and Engineering, virtual, 11–16 April 2021.

"Electron Radiography Based on Electron Beams from Self-Modulated Laser Wakefield Acceleration," J. L. Shaw, G. Bruhaug, M. Freeman, F. Merrill, V. Geppert-Kleinrath, C. Wilde, and D. H. Froula, presented at LANSCE Futures Spring 2021 Workshop Series, virtual, 6 April 2021.

"LLE: Today and Tomorrow," E. M. Campbell, presented at the Institute of Optics Colloquium, virtual, 5 April 2021.

"Laser-Drive Coils, How Well Do They Work?" J. L. Peebles, J. R. Davies, D. H. Barnak, M. J. Bonino, G. Brent, T. Cracium, and R. Betti, presented at the HEDS Seminar, virtual, 1 April 2021.

"Neutron Time-of-Flight Diagnostics," H. McClow, O. M. Mannion, and Z. Mohamed, presented at the High Energy Density Plasma Diagnostics Course, virtual, 30 March–3 June 2021.

"Omega Overview," S. T. Ivancic, presented at the High Energy Density Plasma Diagnostics Course, virtual, 30 March–3 June 2021.

"The Single Line-of-Sight Time-Resolved X-Ray Imager," K. Churnetski, M. Michalko, and S. T. Ivancic, presented at the High Energy Density Plasma Diagnostics Course, virtual, 30 March–3 June 2021.

"Test Project," S. T. Ivancic, presented at the High Energy Density Plasma Diagnostics Course, virtual, 30 March–3 June 2021.

"TRXI Install," S. T. Ivancic, presented at the High Energy Density Plasma Diagnostics Course, virtual, 30 March–3 June 2021.

"Controlling Laser Beams for Grand Challenge Applications," D. H. Froula, S. Jolly, F. Quéré, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieira, A. DiPiazza, A. Howard, A. Arefiev, T. M. Antonsen Jr., and Z. Li, presented at UR ECE Seminar, virtual, 24 March 2021.

"Cross-Beam Energy Transfer Saturation by Ion Trapping-Induced Detuning," K. L. Nguyen, A. M. Hansen, D. Turnbull, R. K. Follett, D. H. Froula, J. P. Palastro, L. Yin, and B. J. Albright, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Expanding Ignition Parameter Space with the Dynamic Shell Formation Concept," V. N. Goncharov, I. V. Igumenshchev, T. J. B. Collins, P. B. Radha, S. X. Hu, S. P. Regan, D. H. Froula, D. Harding, W. Theobald, M. J. Rosenberg, A. Shvydky, S. F. B. Morse, J. D. Zuegel, C. Dorrer, T. C. Sangster, and E. M. Campbell, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Experimental Measurements of Laser Imprint and Target-Based Mitigation Techniques on OMEGA and OMEGA EP," J. L. Peebles, S. X. Hu, W. Theobald, V. N. Goncharov, D. R. Harding, M. J. Bonino, P. M. Celliers, S. J. Ali, G. Duchateau, E. M. Campbell, T. R. Boehly, and S. P. Regan, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Hot-Electron Preheat and Mitigation in Polar-Direct-Drive Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, M. Stoeckl, A. R. Christopherson, R. Betti, P. B. Radha, C. Stoeckl, R. Epstein, R. K. Follett, W. Seka, S. P. Regan, J. P. Palastro, D. H. Froula, V. N. Goncharov, J. F. Myatt, M. Hohenberger, B. Bachmann, and P. Michel, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Laser Coupling Studies on OMEGA and the National Ignition Facility," P. B. Radha, D. Cao, R. S. Craxton, D. H. Edgell, J. P. Knauer, J. A. Marozas, F. J. Marshall, M. J. Rosenberg, W. Seka, A. Shvydky, A. A. Solodov, C. Stoeckl, W. Theobald, C. A. Thomas, D. Turnbull, K. S. Anderson, R. Betti, E. M. Campbell, D. H. Froula, V. N. Goncharov, S. X. Hu, S. P. Regan, M. Hohenberger, and J. D. Moody, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Overview of High-Energy-Density–Physics Research for the Direct-Drive Inertial Confinement Fusion Program at the Laboratory for Laser Energetics," S. X. Hu, V. V. Karasiev, P. M. Nilson, S. Zhang, M. Zaghoo, D. Mihaylov, J. Hinz, R. Paul, M. Ghosh, J. R. Rygg, V. N. Goncharov, G. W. Collins, E. M. Campbell, L. A. Collins, A. J. White, J. D. Kress, J. P. Colgan, O. Certik, V. Recoules, N. Brouwer, M. Torrent, I. E. Golovkin, M. Gu, T. Walton, and S. B. Hansen, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Shock-Release Experiments on OMEGA EP," A. Shvydky, D. Haberberger, J. P. Knauer, S. X. Hu, S. T. Ivancic, J. Carroll-Nellenback, D. Cao, I. V. Igumenshchev, V. V. Karasiev, P. B. Radha, A. V. Maximov, S. P. Regan, T. C. Sangster, R. Boni, P. M. Nilson, V. N. Goncharov, D. H. Froula, M. D. Rosen, and V. A. Smalyuk, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Subscale Cryogenic Implosions and Diagnostic Development for Laser-Direct-Drive Research on OMEGA," W. Theobald, S. P. Regan, J. Baltazar, K. A. Bauer, R. Betti, D. Bredesen, E. M. Campbell, D. Cao, K. Churnetski, D. H. Edgell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, S. X. Hu, I. V. Igumenshchev, T. Joshi, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, T. J. Kessler, J. P. Knauer, J. Kwiatkowski, A. Lees, O. M. Mannion, F. J. Marshall, M. Michalko, Z. Mohamed, P. M. Nilson, D. Patel, J. L. Peebles, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, T. C. Sangster, R. C. Shah, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, C. A. Thomas, L. J. Waxer, K. M. Woo, J. D. Zuegel, A. C. Carpenter, J. A. Frenje, M. Gatu Johnson, J. D. Hares, and J. D. Kilkenny, presented at the 16th Direct-Drive and Fast-Ignition Workshop, virtual, 22–24 March 2021.

"Nuclear Energy, Today and Tomorrow," E. M. Campbell, presented at Oklahoma University, virtual, 19 March 2021.

"Spatiotemporal Pulse Shaping for Plasma Based Applications," D. H. Froula, J. P. Palastro, R. Boni, M. Ambat, P. Franke, J. Oliver, D. Ramsey, J. L. Shaw, T. T. Simpson, D. Turnbull, S. Jolly, F. Quéré, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieira, A. DiPiazza, A. Howard, A. Arefiev, T. M. Antonsen Jr., and Z. Li, presented at the Industrial Associates Bi-Annual Meeting, virtual, 17–19 March 2021.

"Benchmarking a Multi-Megabar Phase Diagram of MgO," S. Zhang, R. Paul, S. X. Hu, M. A. Morales, and F. D. Malone, presented at the APS March Meeting, virtual, 15–19 March 2021

"High-Pressure Structural and Electronic Properties of Ramp-Compressed Sodium," D. N. Polsin, X. Gong, M. F. Huff, L. E. Crandall, B. J. Henderson, R. Paul, S. Burns, G. W. Collins, J. R. Rygg, A. Lazicki, F. Coppari, R. Smith, M. Millot, J. H. Eggert, M. I. McMahon, X. Wang, K. Hilleke, and E. Zurek, presented at the APS March Meeting, virtual, 15–19 March 2021.

"Phase Diagram of Ternary Carbon-Sulfur-Hydrogen System up to 300 GPa," R. Paul, S. X. Hu, V. V. Karasiev, R. Dias, presented at the APS March Meeting, virtual, 15–19 March 2021

"Progress in Development of Thermal Hybrid Exchange-Correlation Density Functionals for Improving the Description of Warm Dense Matter," D. I. Mihaylov, V. V. Karasiev, and S. X. Hu, presented at the APS March Meeting, virtual, 15–19 March 2021.

"Understanding Matter at Superdense and Warm Conditions," S. X. Hu, P. M. Nilson, V. V. Karasiev, R. Paul, M. Ghosh, J. Hinz, S. Zhang, D. Mihaylov, V. Recoules, N. Brouwer, M. Torrent, I. E. Golovkin, and T. Walton, presented at the APS March Meeting, virtual, 15–19 March 2021.

"Neutron Spectroscopy in Laser-Direct-Drive Inertial Confinement Fusion Implosions," O. M. Mannion, K. S. Anderson, R. Betti, E. M. Campbell, D. Cao, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, J. P. Knauer, A. Lees, F. J. Marshall, Z. L. Mohamed, D. Patel, S. P. Regan, H. G. Rinderknecht, R. C. Shah, C. Stoeckl, W. Theobald, K. M. Woo, B. D. Appelbe, A. J. Crilly, J. Chittenden, W. Taitano, P. Adrian, J. A. Frenje, N. Kabadi, and M. Gatu Johnson, presented at the UR Mechanical Engineering Seminar, virtual, 12 March 2021.

"A Highly Efficient, 10-J Output Signal Amplifier for Ultra-Intense All-OPCPA Systems," I. A. Begishev, S.-W. Bahk, C. Dorrer, C. Feng, M. J. Guardalben, C. Jeon, R. G. Roides, M. Spilatro, B. Webb, D. Weiner, J. D. Zuegel, and J. Bromage, presented at Photonics West 2021, virtual, 6–11 March 2021.

"Minimizing Risk of Laser Damage due to Transverse Stimulated Raman Scattering in Large-Aperture KDP / DKDP Plates," T. Z. Kosc, T. J. Kessler, H. Huang, and S. G. Demos, presented at Photonics West 2021, virtual, 6–11 March 2021.

"Spatiotemporal Pulse Shaping for Plasma Base Applications," D. H. Froula, S. Jolly, F. Quere, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieira, A. Di Piazza, A. Howard, A. Arafiev, T. M. Antonsen Jr., and Z. Li, presented at the University of California-Irvine Seminar, virtual, 25 February 2021.

"Lasers Ultra-Short Pulse Laser (USPL) Science and Technology at LLE," J. D. Zuegel, presented at the High Energy Laser Joint Technology Office Ultrashort Pulse Laser Workshop, virtual, 18 February 2021.

"Experiments and Modeling of SPL Absorption and Ablation with Picosecond Pulses," R. B. Spielman, K. M. Woo, P. Tzeferacos, A. Reyes, C. R. Stillman, I. A. Begishev, C. Mileham, and J. Bromage, presented at the Pulsed-Laser Workshop, virtual, 18 February 2021.

"Spatiotemporal Pulse Shaping for Plasma Base Applications," D. H. Froula, S. Jolly, F. Quéré, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieria, A. Di Piazza, A. Howard, A. Arefiev, T. M. Antonsen Jr., and Z. Li, presented at Imperial College Seminar, virtual, 17 February 2021.

"Neutron Spectroscopy in Laser-Direct-Drive Inertial Confinement Fusion Implosions," O. M. Mannion, K. S. Anderson, R. Betti, E. M. Campbell, D. Cao, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, J. P. Knauer, A. Lees, F. J. Marshall, Z. L. Mohamed, D. Patel, S. P. Regan, H. G. Rinderknecht, R. C. Shah, C. Stoeckl, W. Theobald, K. M. Woo, B. D. Appelbe, A. J. Crilly, J. Chittenden, W. Taitano, P. Adrian, J. A. Frenje, N. Kabadi, and M. Gatu Johnson, presented at Imperial College Seminar, virtual, 10 February 2021.

"Species Separation and Hydrogen Streaming: The Physics of CH Shock Release Revealed by Molecular Dynamics Simulations," S. Zhang, S. X. Hu, D. Haberberger, A. Shvydky, V. N. Goncharov, and D. E. Fratanduono, presented at the NIF and JLF User Group Meeting 2021, virtual, 9–10 February 2021.

"Laser-Plasma Interactions Driven by Spatiotemporally Structured Light Pulses," J. P. Palastro, D. H. Froula, M. Ambat, R. Boni, E. M. Campbell, R. K. Follett, P. Franke, V. N. Goncharov, J. B. Oliver, D. Ramsey, J. L. Shaw, T. T. Simpson, D. Turnbull, H. Wen, S. Jolly, F. Quere, C. Benedetti, E. Esarey, C. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, B. Malaca, A. Helm, J. Vieira, A. DiPiazza, A. Howard, K. Weichman, A. Arefiev, T. M. Antonsen Jr., and Z. Li, presented at the SOCAL Plasma Seminar, virtual, 9 February 2021.

"Probing Strong Electric and Magnetic Fields using Axial Proton Radiography of Laser-Driven Coils," J. L. Peebles, J. R. Davies, D. H. Barnak, M. J. Bonino, T. Cracium, R. Betti, and P.-Y. Chang, presented at Charged Particle Radiography in High-Energy-Density Laboratory Plasmas, virtual, 25–28 January 2021.

"New Developments in Laser Wakefield Acceleration at the Laboratory for Laser Energetics," J. L. Shaw, M. V. Ambat, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, G. Bruhaug, S. Bucht, E. M. Campbell, A. Davies, C. Dorrer, P. Franke, R. K. Follett, V. N. Goncharov, D. Haberberger, A. Howard, G. W. Jenkins, J. Katz, T. J. Kessler, B. Kruschwitz, M. M. McKie, L. Nguyen, J. B. Oliver, J. P. Palastro, D. Ramsey, M. A. Romo-Gonzalez, T. T. Simpson, D. Turnbull, L. J. Waxer, H. Wen, D. H. Froula, P. M. King, N. Lemos, G. J. Williams, H. Chen, F. Albert, M. D. Sinclair, C. Joshi, F. A. Hegmann, D. Purschke, S. Stoller, N. Vafaei-Najafabadi, B. Malaca, J. L. Martins, J. Vieira, S. Jolly, F. Quere, A. Di Piazza, G. Gregori, Z. Li, T. M. Antonsen Jr., A. Arefiev, K. Weichman, and R. Bingham, presented at the Oxford Hilary Series Seminar, virtual, 25 January 2021.

**2020**

"Laboratory for Laser Energetics Update," E. M. Campbell, presented at the Fusion Power Associates 41st Annual Meeting and Symposium, virtual, 16–17 December 2020.

"Benchmarking Phase Transitions in Periclase Under Multi-Megabar Pressures," S. Zhang, R. Paul, and M. A. Morales, presented at the American Geophysical Union Fall Meeting, virtual, 16 December 2020.

"Application of an Energy-Dependent Instrument Response Function of nTOF Data from DT Cryogenic DT Experiments," Z. L. Mohamed, O. M. Mannion, J. P. Knauer, C. J. Forrest, V. Yu. Glebov, and C. Stoeckl, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"Diagnosing 3-D Asymmetries in Laser-Direct-Drive Implosions on OMEGA," O. M. Mannion, C. J. Forrest, V. Yu. Glebov, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, J. P. Knauer, Z. L. Mohamed, S. P. Regan, H. G. Rinderknecht, R. C. Shah, C. Stoeckl, W. Theobald, K. M. Woo, J. A. Frenje, M. Gatu Johnson, and A. J. Crilly, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020 (invited).

"High-Resolution X-Ray Radiography with Fresnel Zone Plates at the University of Rochester's OMEGA Laser Systems," F. J. Marshall, S. T. Ivancic, C. Mileham, P. M. Nilson, J. J. Ruby, C. Trejan, J. Kendrick, B. S. Schiener, and M. J. Schmitt, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020 (invited).

"Improving Time-Resolved X-Ray Hot-Spot Image Fidelity with Composite Imaging Using a Multiple Pinhole Imager," S. T. Ivancic, W. Theobald, C. Sorce, M. Bedzyk, F. J. Marshall, C. Stoeckl, R. C. Shah, M. Lawrie, S. P. Regan, T. C. Sangster, E. M. Campbell, T. J. Hilsabeck, K. Englehorn, J. D. Kilkenny, T. M. Chung, J. D. Hares, A. K. L. Dymoke-Bradshaw, P. Bell, J. Celeste, A. C. Carpenter, M. Dayton, D. K. Bradley, M. C. Jackson, E. Hurd, L. Pickworth, S. R. Nagel, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, and Q. Looker, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"Open L-Shell Spectroscopy of Nonlocal Thermodynamic Equilibrium Plasmas," D. T. Bishel, E. V. Marley, M. B. Schneider, D. A. Liedahl, R. F. Heeter, M. E. Foord, G. E. Kemp, Y. Frank, J. A. Emig, G. Perez-Callejo, J. R. Rygg, G. W. Collins, and P. M. Nilson, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"SLTD: A Time-Resolved Scattered-Light Diagnostic Array at the National Ignition Facility," M. J. Rosenberg, T. Filkins, R. E. Bahr, R. Jungquist, M. Bedzyk, S. P. Regan, J. Hernandez, N. Butler, G. Swadling, J. Eichmiller, R. Sommers, P. Nyholm, P. Datte, and J. S. Ross, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"Soft X-Ray Spectrum Unfold of K-Edge–Filtered X-Ray Diode Arrays Using Cubic Splines," D. H. Barnak, J. R. Davies, J. P. Knauer, and P. M. Kozlowski, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"A Transmitted Beam Diagnostic for the Wavelength Tunable UV Drive Beam on OMEGA," J. Katz, D. Turnbull, B. E. Kruschwitz, A. Rigatti, R. Rinefierd, and D. H. Froula, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"Unabsorbed Light Beamlets for Diagnosing Coronal Density Profiles and Absorption Nonuniformity in Direct-Drive Implosions on OMEGA," D. H. Edgell, A. Hansen, J. Katz, D. Turnbull, and D. H. Froula, presented at the 23rd Topical Conference on High-Temperature Plasma Diagnostics, virtual, 13–17 December 2020.

"Direct-Drive Laser Fusion: Status, Plans, and the Future," E. M. Campbell, presented at the Freeman Dyson Seminar, virtual, 10 December 2020.

"Exploring Extrasolar Planets in the Laboratory," G. W. Collins, M. Zaghoo, M. Hiuff, L. Crandall, G. Tabak, B. J. Henderson, X. Gong, D. A. Chin, Z. K. Sprowal, J. J. Ruby, M. K. Ginnane, P. M. Nilson, D. N. Polsin, M. Marshall, J. R. Rygg, and R. Jeanloz, presented at the American Geophysical Union Fall Meeting, virtual, 7–11 December 2020.

"Dephasingless Laser Wakefield Acceleration," P. Franke, J. P. Palastro, J. L. Shaw, D. Ramsey, T. T. Simpson, M. V. Ambat, K. Daub, J. B. Oliver, R. Boni, C. Dorrer, J. Katz, and D. H. Froula, presented at the Advanced Accelerator Concepts Seminar Series, virtual, 2 December 2020.

"Microcoulomb-Class Laser-Plasma Accelerator on OMEGA EP," J. L. Shaw, M. A. Romo-Gonzalez, G. Bruhaug, C. Dorrer, B. E. Kruschwitz, L. J. Waxer, M. V. Ambat, M. M. McKie, J. P. Palastro, D. H. Froula, N. Lemos, P. M. King, G. J. Williams, H. Chen, F. Albert, M. D. Sinclair, and C. Joshi, presented at the Advanced Accelerator Concepts 2020, virtual, 2 December 2020.

"ICF Diagnostics and Instrumentation: LLE," S. P. Regan, presented at the Office of Experimental Science, FY 2021 Annual Program Review, virtual, 1–3 December 2020.

"ICF Facility Operations- LLE 10.7," E. M. Campbell, presented at the Office of Experimental Science, FY 2021 Annual Program Review, virtual, 1–3 December 2020.

"LLE MTE 10.8," T. C. Sangster, presented at the Office of Experimental Science, FY 2021 Annual Program Review, virtual, 1–3 December 2020.

"OMEGA EP Laser Facility," M. S. Wei, presented at the LaserNetUS Town Hall, virtual, 19 November 2020.

"Computational Modeling and Design of Liquid Crystal Materials for Applications in the Terahertz Regime," B. E. Ugur and K. L. Marshall, presented at the 2020 American Institute of Chemical Engineers Annual Meeting, virtual, 16–20 November 2020.

"Progress in Flying Focus," D. H. Froula, presented at High-Intensity Lasers and High-Field Phenomena, virtual, 16–20 November 2020 (invited).

"Permeation of Isotopes through FeCrAl Alloys," M. Sharpe, W. T. Shmayda, J. Wermer, and C. A. Bond, presented at Technology of Fusion Energy (TOFE) 2020, virtual, 15–19 November 2020.

"Accurate Density Functional Theory Simulations Across Warm-Dense-Matter Regime: Thermal meta-GGA Exchange-Correlation and Nuclear-Quantum Effects," V. V. Karasiev, D. I. Mihaylov, S. X. Hu, and S. B. Trickey, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Achieving and Azimuthal Uniform Cylindrical Implosion on OMEGA," D. H. Barnak, M. J. Bonino, J. R. Davies, E. C. Hansen, D. R. Harding, L. S. Leal, J. L. Peebles, P.-Y. Chang, R. Betti, J. D. Moody, and B. B. Pollock, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Analysis of Techniques to Infer Hot-Spot Mixing Using Absolute X-Ray Emission for OMEGA Direct-Drive Layered Implosions," D. Cao, R. C. Shah, R. Epstein, A. R. Christopherson, V. Gopalaswamy, S. P. Regan, W. Theobald, and V. N. Goncharov, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Axial Proton Radiography of Electric and Magnetic Fields Inside Laser-Driven Coils," J. L. Peebles, J. R. Davies, D. H. Barnak, M. J. Bonino, T. Cracium, R. Betti, and P.-Y. Chang, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Bayesian Inference of Energy Transfer in Gigabar Convergent Experiments," J. J. Ruby, J. R. Rygg, D. A. Chin, C. J. Forrest, V. Yu. Glebov, C. Stoeckl, G. W. Collins, B. Bachmann, J. A. Gaffney, Y. Ping, N. V. Kabadi, and P. J. Adrian, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Broadband Mitigation of the Multibeam Two-Plasmon Decay and Stimulated Raman Scattering Instabilities," R. K. Follett, J. G. Shaw, C. Dorrer, D. H. Edgell, D. H. Froula, H. Wen, J. Bromage, E. M. Hill, T. J. Kessler, A. V. Maximov, A. A. Solodov, E. M. Campbell, J. P. Palastro, J. F. Myatt, J. W. Bates, and J. L. Weaver, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Construction and Implementation of an Energy-Dependent Instrument Response Function For Accurate Analysis of Neutron Time-of-Flight Data," Z. L. Mohamed, O. M. Mannion, C. J. Forrest, J. P. Knauer, and E. P. Hartouni, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Controllable Target-Normal Sheath Acceleration Deuteron Beams Using Titanium Targets Toward Generating a Tritium Beam," A. K. Schwemmlein, C. Stoeckl, W. T. Shmayda, C. J. Forrest, J. P. Knauer, S. P. Regan, and W. U. Schröder, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Cross-Beam Energy Transfer in Simulations of NIF-Scale Strong Spherical Shock Experiments," K. S. Anderson, W. Theobald, M. J. Rosenberg, J. A. Marozas, R. H. H. Scott, and K. Glize, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Cross-Beam Energy Transfer Saturation," A. M. Hansen, K. L. Nguyen, D. Turnbull, R. K. Follett, R. Huff, J. Katz, D. Mastrosimone, A. L. Milder, J. P. Palastro, D. H. Froula, B. Albright, and L. Yin, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Directly Driven Magnetized Targets with Steep Density Gradients for Inertial Fusion Energy," A. B. Sefkow, B. G. Logan, and J. H. Nuckolls, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Double Shock Compression in Polystyrene to ~8 MBar," Z. K. Sprowal, L. E. Crandall, J. R. Rygg, T. R. Boehly, D. N. Polsin, G. W. Collins, D. G. Hicks, and P. M. Celliers, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Dynamically Guided Self-Photon Acceleration," P. Franke, J. P. Palastro, D. Ramsey, T. T. Simpson, D. Turnbull, and D. H. Froula, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Equation of State and Transport of $CO_2$ Shock Compressed to 1 TPa," L. E. Crandall, J. R. Rygg, T. R. Boehly, B. J. Henderson, M. F. Huff, D. N. Polsin, M. Zaghoo, G. W. Collins, D. K. Spaulding, S. Brygoo, P. M. Celliers, J. H. Eggert, D. E. Fratanduono, A. Lazicki, M. C. Marshall, M. Millot, and R. Jeanloz, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Evaluating the Residual Kinetic Energy in Direct-Drive Cryogenic Implosions on OMEGA," C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, O. M. Mannion,

Z. L. Mohamed, P. B. Radha, S. P. Regan, R. C. Shah, C. Stoeckl, and K. M. Woo, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Evaluation of Polar-Direct-Drive, Contoured-Shell Experiments at the National Ignition Facility," P. W. McKenty, M. J. Rosenberg, F. J. Marshall, D. R. Harding, R. S. Craxton, J. A. Marozas, T. J. B. Collins, R. Epstein, E. M. Campbell, S. Schiaffino, B. E. Blue, C. B. Yeamans, W. W. Hsing, C. Shuldberg, and M. Farrell, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Exploring Pathways to Hydro-Equivalent Ignition on the OMEGA Laser," R. Betti, V. Gopalaswamy, J. P. Knauer, A. Lees, D. Patel, C. A. Thomas, and W. Theobald, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Extreme Atomic Physics at 5- to 100-Gbar Pressures," S. X. Hu, P. M. Nilson, V. V. Karasiev, S. B. Hansen, T. Walton, and I. E. Golovkin, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Feasibility Study of Measuring In-Flight Shell Thickness for a Laser-Direct-Drive DT Cryogenic Implosion," J. Baltazar, R. C. Shah, S. X. Hu, K. Churnetski, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, T. Joshi, W. Theobald, and S. P. Regan, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A Feasibility Study of Using X-Ray Thomson Scattering to Diagnose the Plasma Conditions of Laser-Direct-Drive, DT Cryogenic Implosions," H. Poole, D. Cao, J. R. Rygg, S. X. Hu, I. E. Golovkin, T. Walton, R. Epstein, M. Kasim, S. Vinko, G. Gregori, and S. P. Regan, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"High-Power THz Sources for High-Energy-Density–Physics Applications," G. Bruhaug, H. G. Rinderknecht, M. S. Wei, G. W. Collins, J. R. Rygg, Y. E, K. Garriga, and X. C. Zhang, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Hot-Electron Preheat in Hydrodynamically Scaled Direct-Drive Implosions at the National Ignition Facility and OMEGA ," M. J. Rosenberg, A. A. Solodov, A. R. Christopherson, R. Betti, P. B. Radha, C. Stoeckl, C. J. Forrest, V. Yu. Glebov, F. J. Marshall, S. P. Regan, T. J. B. Collins, D. H. Froula, J. P. Palastro, V. N. Goncharov, M. Hohenberger, B. Bachmann, G. N. Hall, P. Michel, and C. Kauland, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Hydrodynamic Scaling Relations for OMEGA Cryogenic Implosions," D. Patel, R. Betti, K. M. Woo, V. Gopalaswamy, J. C. Carrol, and A. Bose, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Imaging of Hydrodynamic Perturbation Evolution Using a Fresnel Phase Zone Plate," P. M. Nilson, F. J. Marshall, J. Kendrick, J. J. Ruby, D. A. Chin, D. Bishel, D. Guy, S. T. Ivancic, C. Stoeckl, R. F. Earley, D. R. Harding, M. Bedzyk, G. Gates, D. W. Jacobs-Perkins, V. N. Goncharov, T. J. B. Collins, and R. Epstein, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Impact of Low-Mode Areal Density Asymmetry on Loss of Confinement for Igniting Capsules," K. M. Woo and R. Betti, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Impact of Spatiotemporal Smoothing on the Two-Plasmon-Decay Instability," D. Turnbull, A. V. Maximov, D. Cao, A. R. Christopherson, D. H. Edgell, R. K. Follett, V. Gopalaswamy, J. P. Knauer, J. P. Palastro, A. Shvydky, C. Stoeckl, H. Wen, and D. H. Froula, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Imprint Mitigation with Hybrid Targets," L. Ceurvorst, R. Betti, A. Bose, S. X. Hu, E. M. Campbell, S. P. Regan, J. L. Peebles, W. Theobald, A. Casner, C. A. McCoy, M. Karasik, and M. Tabak, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Inferring Degradation Mechanisms in OMEGA Cryogenic Implosions Through Statistical Modeling," V. Gopalaswamy, R. Betti, J. P. Knauer, A. Lees, D. Patel, A. R. Christopherson, K. M. Woo, D. Cao, C. A. Thomas, I. V. Igumenshchev, S. P. Regan, W. Theobald, R. C. Shah, P. B. Radha, and K. S. Anderson, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"In-Flight Shell Breakup in Direct-Drive DT Cryogenic Implosions," R. C. Shah, S. X. Hu, I. V. Igumenshchev, J. Baltazar, D. Cao, C. J. Forrest, V. N. Goncharov, V. Gopalaswamy, D. Patel, W. Theobald, S. P. Regan, and F. Philippe, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Kinetic Inflation of Stimulated Raman Scattering Driven by a Broadband Frequency-Modulated Laser Pulse," H. Wen, R. K. Follett, A. V. Maximov, D. H. Froula, J. P. Palastro, and F. S. Tsung, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Kinetic Simulation Study of Magnetized Collisionless Shock Formation Using OMEGA

EP," Y. Zhang, C. Ren, J. R. Davies, and P. Heuer, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9-13 November 2020.

"Kinetic Transition Pathway of Pressure Driven Structural Transformations: The Case Of Magnesium Oxide," B. McLellan and S. Zhang, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Knock-on Deuteron Imaging of the Hot Spot and Compressed Fuel in Direct-Drive Cryogenic ICF Implosions," H. G. Rinderknecht, J. P. Knauer, W. Theobald, R. Fairbanks, B. Brannon, V. Kobilansky, R. Peck, J. Armstrong, M. Weisbeck, J. Brown, P. B. Radha, S. P. Regan, J. Kunimune, P. J. Adrian, M. Gatu Johnson, J. A. Frenje, F. H. Séguin, and B. Bachmann, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Large-Scale Molecular-Dynamics Studies on the Release of Shocked Polystyrene Under Inertial Confinement Fusion Conditions," S. Zhang and S. X. Hu, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Laser-Direct-Drive Energy-Coupling Experiments Using Spherical Solid-Plastic Targets at the National Ignition Facility," S. P. Regan, W. Theobald, P. B. Radha, R. Betti, M. J. Rosenberg, R. S. Craxton, A. A. Solodov, A. Shvydky, K. S. Anderson, J. A. Marozas, T. J. B. Collins, V. N. Goncharov, D. Turnbull, E. M. Campbell, C. M. Shuldberg, R. W. Luo, R. Heredia, B. Bachmann, T. Döppner, M. Hohenberger, R. Scott, K. Glize, A. Colaïtis, and A. Casner, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Laser-Direct-Drive Inertial Confinement Fusion—A Pathway to Ignition," J. A. Marozas, K. S. Anderson, R. Betti, T. R. Boehly, R. Boni, M. J. Bonino, E. M. Campbell, D. Canning, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, W. R. Donaldson, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, H. Huang, I. V. Igumenshchev, R. T. Janezic, D. W. Jacobs-Perkins, J. Katz, R. L. Keck, J. H. Kelly, T. J. Kessler, B. E. Kruschwitz, J. P. Knauer, T. Z. Kosc, S. J. Loucks, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, P. M. Nilson, J. C. Puth, P. B. Radha, S. P. Regan, H. G. Rinderknecht, M. J. Rosenberg, T. C. Sangster, R. Shah, W. T. Shmayda, R. W. Short, A. Shvydky, M. J. Shoup III, S. Skupsky, A. A. Solodov., C. Sorce, S. Stagnitto, C. Stoeckl, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, V. Gopalaswamy, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, H. Sio, B. Lahmann, P. Bell, B. E. Blue, S. Bhandarkar, D. K. Bradley, D. A. Callahan, A. Carpenter, D. T. Casey, J. Celeste, M. Dayton, C. S. Goyon, M. Hohenberger, O. A. Hurricane, G. E. Kemp, S. Le Pape, L. Masse, P. Michel, J. D. Moody, S. R. Nagel, A. Nikroo, R. Nora, L. Pickworth, J. E. Ralph, R. P. J. Town, R. J. Wallace, Z. B. Walters, P. Wegner, H. D. Whitley, C. B. Yeamans, M. Farrell, P. Fitzsimmons, C. Gibson, A. Greenwood, L. Carlson, T. Hilsabeck, H. Huang, J. D. Kilkenny, R. W. Luo, N. Rice, M. Schoff, W. Sweet, A. Tambazidis, T. Bernat, N. Petta, J. Hund, S. P. Obenschain, J. W. Bates, M. Karasik,

A. J. Schmitt, J. Weaver, J. Hares, T. Dymoke-Bradshaw, R. E. Olson, M. J. Schmitt, S. Hsu, G. Rochau, L. Claus, Q. Looker, J. Porter, G. Robertson, M. Sanchez, and W. J. Garbett, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Laser–Plasma Interactions Driven by Spatiotemporally Structured Light Pulses," J. P. Palastro, D. H. Froula, M. V. Ambat, R. Boni, E. M. Campbell, R. K. Follett, P. Franke, V. N. Goncharov, J. B. Oliver, D. Ramsey, J. L. Shaw, T. T. Simpson, D. Turnbull, H. Wen, S. Jolly, F. Quere, C. Benedetti, E Esarey, G. Geddes, C. Schroeder, R. Bingham, S. Stoller, N. Vafaei-Najafabadi, G. Gregori, and B. Malaca, A. Helm, J. Vieira, A. DiPiazza, A. Howard, K. Weichman, A. Arefiev, T. M. Antonsen Jr., Z. Li, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Low-Mode Asymmetry due to Polarization Smoothing in OMEGA Implosions," D. H. Edgell, R. K. Follett, J. Katz, J. A. Marozas, D. Turnbull, and D. H. Froula, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A Machine-Learned, Orbital-Free, Force-Correction Model: Extending the Thermodynamic Range of Affordable Kohn–Sham Level Accuracy," J. Hinz, V. V. Karasiev, and S. X. Hu, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Magnetic-Field Effect on Rayleigh-Taylor and Darrieus–Landau Instabilities," F. Garcia-Rubio, R. Betti, H. Aluie, and J. Sanz Recio, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Measurements of the DT and DD Neutron Energy Spectrum in High Temperature Fusing Plasmas," O. M. Mannion, C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. W. McKenty, Z. L. Mohamed, S. P. Regan, C. Stoeckl, B. D. Appelbe, A. J. Crilly, W. Taitano, P. J. Adrian, J. A. Frenje, N. V. Kabadi, and M. Gatu Johnson, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Measurements of Electron Distribution Functions in Laser-Produced Plasmas Using Angularly Resolved Thomson Scattering," A. Milder, J. Katz, R. Boni, D. Nelson, D. Turnbull, J. P. Palastro, K. Daub, R. K. Follett, D. H. Froula, M. Sherlock, T. Chapman, and W. Rozmus, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Measurements of Sound Speed in Iron Shock-Compressed to ~4000 GPa," M. Huff, J. R. Rygg, G. W. Collins, T. R. Boehly, M. Zaghoo, D. N. Polsin, M. Nakajima, B. J. Henderson, L. E. Crandall, M. C. Marshall, D. E. Fratanduono, M. Millot, R. F. Smith,

J. H. Eggert, P. M. Celliers, and C. A. McCoy, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Microcoulomb-Class Laser-Plasma Accelerator on OMEGA EP," J. L. Shaw, M. A. Romo-Gonzalez, G. Bruhaug, C. Dorrer, B. E. Kruschwitz, L. J. Waxer, M. V. Ambat, M. M. McKie, J. P. Palastro, D. H. Froula, N. Lemos, P. M. King, G. J. Williams, H. Chen, F. Albert, M. D. Sinclair, and C. Joshi, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Mode One Asymmetry in Laser-Direct-Drive Inertial Confinement Fusion Implosions," O. M. Mannion, K. S. Anderson, R. Betti, E. M. Campbell, D. Cao, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, J. P. Knauer, A. Lees, F. J. Marshall, Z. L. Mohamed, D. Patel, S. P. Regan, H. G. Rinderknecht, R. C. Shah, C. Stoeckl, W. Theobald, K. M. Woo, and M. Gatu Johnson, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Modeling Effects of Ion Viscosity on Dynamics of OMEGA Direct-Drive Cryogenic Implosions," I. V. Igumenshchev, O. M. Mannion, J. P. Knauer, R. Betti, E. M. Campbell, D. Cao, V. N. Goncharov, V. Goplaswamy, D. Patel, S. P. Regan, R. C. Shah, A. Shvydky, W. Theobald, D. S. Clark, M. M. Marinak, and B. M. Haines, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A New Beam Configuration to Support Both Spherical Hohlraums and Symmetric Direct Drive," R. S. Craxton, W. Y. Wang, and E. M. Campbell, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Nonequilibrium Thermodynamics of Plasma Under Collisional-Radiative Equilibrium," R. Epstein, A. Shvydky, I. E. Golovkin, and W.-F. Fong, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Nonlinear Absorption of Multiple Laser Beams due to the Two-Plasmon–Decay Instability," A. V. Maximov, D. Turnbull, D. H. Edgell, J. G. Shaw, R. K. Follett, H. Wen, D. H. Froula, and J. P. Palastro, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Nonlinear Saturation of Cross-Beam Energy Transfer," K. L. Nguyen, A. M. Hansen, D. Turnbull, R. K. Follett, D. H. Froula, J. P. Palastro, L. Yin, and B. J. Albright, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Nonlinear Spatiotemporal Control of Laser Intensity," T. T. Simpson, D. Ramsey, P. Franke, M. V. Ambat, D. Turnbull, D. H. Froula, J. P. Palastro, and N. Vafaei-

Najafabadi, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Novel Hot-Spot–Ignition Designs for Inertial Confinement Fusion with Liquid Deuterium–Tritium Spheres," V. N. Goncharov, I. V. Igumenshchev, D. R. Harding, S. F. B. Morse, S. X. Hu, P. B. Radha, D. H. Froula, S. P. Regan, T. C. Sangster, and E. M. Campbell, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"OMEGA Subscale Cryogenic Implosions in Symmetric and Polar-Direct-Drive Beam Geometry," W. Theobald, P. B. Radha, S. P. Regan, K. S. Anderson, R. Betti, E. M. Campbell, D. Cao, R. S. Craxton, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, I. V. Igumenshchev, T. Joshi, S. T. Ivancic, J. P. Knauer, A. Lees, O. M. Mannion, F. J. Marshall, M. Michalko, Z. L. Mohamed, D. Patel, R. C. Shah, C. Stoeckl, C. A. Thomas, and M. Gatu Johnson, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Open L-Shell Spectroscopy of Non-Local-Thermodynamic-Equilibrium Plasmas," D. T. Bishel, E. V. Marley, M. B. Schneider, D. A. Liedahl, R. F. Heeter, M. E. Foord, G. E. Kemp, Y. Frank, J. A. Emig, G. Perez-Callejo, J. R. Rygg, G. W. Collins, and P. M. Nilson, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Optical Spectroscopy Measurements of Decaying Shocks in Transparent Crystals," B. J. Henderson, T. R. Boehly, M. Zaghoo, J. R. Rygg, D. N. Polsin, X. Gong, L. Crandall, M. Huff, M. K. Ginnane, G. W. Collins, S. Ali, and P. M. Celliers, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Optimization of OMEGA Exploding-Pusher Performance Using Shaped Pulses," T. J. B. Collins, M. Hohenberger, L. Divol, W. W. Hsing, J. A. Marozas, K. A. Bauer, R. S. Craxton, P. W. McKenty, P. B. Radha, S. P. Regan, M. J. Rosenberg, and E. M. Campbell, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Optimization of a Short-Pulse–Driven Si $He_{\alpha}$ Soft X-Ray Backlighter," C. Stoeckl, M. J. Bonino, C. Mileham, S. P. Regan, W. Theobald, T. Ebert, and S. Sander, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Probing the Metastability Limit of Liquid Water under Dynamic Compression," M. C. Marshall, M. Millot, D. E. Fratanduono, P. C. Myint, J. L. Belof, Y.-J. Kim, F. Coppari, J. H. Eggert, R. F. Smith, J. M. McNaney, D. M. Sterbentz, J. R. Rygg, and G. W. Collins, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Progress in Development of Thermal Hybrid Exchange-Correlation Density Functionals for Improving the Description of Warm Dense Matter," D. I. Mihaylov, V. V. Karasiev, and S. X. Hu, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A Proposal for Spherical Hohlraum Experiments on OMEGA using Seven Laser Entrance Holes," W. Y. Wang and R. S. Craxton, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Quantifying the Effects of Scale and Illumination Geometry in Laser Direct Drive," C. A. Thomas, D. Cao, W. Theobald, R. Betti, K. S. Anderson, K. A. Bauer, E. M. Campbell, A. R. Christopherson, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, T. Joshi, J. P. Knauer, J. Kwiatkowski, A. Lees, O. M. Mannion, F. J. Marshall, M. Michalko, Z. L. Mohamed, D. Patel., J. L. Peebles, P. B. Radha, S. P. Regan, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, T. C. Sangster, R. C. Shah, C. Stoeckl, and V. N. Goncharov, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Scaling and Mitigation of Hot-Electron Preheat in Polar-Direct-Drive Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, M. Stoeckl, A. R. Christopherson, R. Betti, W. Seka, R. Epstein, C. Stoeckl, R. K. Follett, P. B. Radha, S. P. Regan, D. H. Froula, J. P. Palastro, V. N. Goncharov, J. F. Myatt, M. Hohenberger, B. Bachmann, and P. Michel, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Shock-Release Experiments on OMEGA EP," A. Shvydky, D. Haberberger, J. P. Knauer, S. X. Hu, S. T. Ivancic, J. Carroll-Nellenback, D. Cao, I. V. Igumenshchev, V. V. Karasiev, P. B. Radha, A. V. Maximov, S. P. Regan, T. C. Sangster, R. Boni, P. M. Nilson, V. N. Goncharov, D. H. Froula, M. D. Rosen, and V. A. Smalyuk, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A Simulation Resource Team for Innovative Fusion Concepts in the BETHE Program," P. Tzeferacos, R. Betti, J. R. Davies, F. Garcia-Rubio, E. C. Hansen, D. Michta, C. Ren, A. C. Reyes, W. Scullin, A. B. Sefkow, J. G. Shaw, H. Wen, and K. M. Woo, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Simulations of Laser Preheat Effects on Yield in Mini-MagLIF Implosions on OMEGA," L. S. Leal, A. V. Maximov, E. C. Hansen, J. R. Davies, D. H. Barnak, J. L. Peebles, A. B. Sefkow, and R. Betti, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A Study of 2D Internal Perturbation Evolution in Inertial Confinement Fusion Implosions," S. C. Miller, V. N. Goncharov, T. J. B. Collins, and J. Carroll-Nellenback,

presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"A Systematic Study of Laser Imprint for Direct Drive—From Seeds to Integrated Implosions," J. P. Knauer, R. Betti, V. Gopalaswamy, D. Cao, D. Patel, A. Lees, A. Shvydky, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. A. Marozas, F. J. Marshall, P. W. McKenty, J. L. Peebles, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, M. Gatu Johnson, J. A. Frenje, and R. D. Petrasso, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Thermal Transport in Low-Beta Laser-Produced Plasmas," Z. Barfield, D. H. Froula, J. P. Palastro, J. L. Peebles, D. Mastrosimone, A. M. Hansen, J. Katz, and P. Tzeferacos, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"The Third Line-of-Sight Time-Gated X-Ray Imager for OMEGA DT Cryogenic Implosions," K. Churnetski, W. Theobald, K. A. Woo, R. Ejaz, I. V. Igumenshchev, S. T. Ivancic, A. Kish, M. Michalko, R. C. Shah, R. Spielman, S. P. Regan, A. Raymond, P. Bell, A. Carpenter, A. McPhee, C. Trosseille, D. K. Bradley, J. D. Hares, A. K. L. Dymoke-Bradshaw, G. Rochau, L. Claus, M. Sanchez, and D. Garand presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Transport Coefficients for Magnetic-Field Evolution in Inviscid Magnetohydrodynamics," J. R. Davies, H. Wen, E. D. Held, and J.-Y. Ji, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Understanding the Fusion Yield and All of Its Dependencies Using Statistical Modeling of Experimental Data," A. Lees, R. Betti, J. P. Knauer, V. Gopalaswamy, D. Patel, R. Epstein, J. Carroll-Nellenback, A. R. Christopherson, K. M. Woo, O. M. Mannion, Z. L. Mohamed, F. J. Marshall, C. Stoeckl, V. Yu. Glebov, S. P. Regan, R. C. Shah, D. H. Edgell, D. Cao, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, T. J. B. Collins, T. C. Sangster, E. M. Campbell, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020 (invited).

"Understanding the Performance of Polar Drive Cryogenic Implosions on OMEGA," P. B. Radha, W. Theobald, R. Betti, D. Cao, R. S. Craxton, C. J. Forrest, V. Yu. Glebov, V. N Goncharov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, T. Joshi, J. P. Knauer, O. M. Mannion, F. J. Marshall, S. Miller, Z. L. Mohamed, D. Patel, S. P. Regan, H. G. Rinderknecht, T. C. Sangster, R. C. Shah, C. Stoeckl, C. A. Thomas, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, and R. D. Petrasso, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Using X-Ray Absorption Spectroscopy to Study Iron Oxides at Extreme Compressions," D. A. Chin, P. M. Nilson, J. J. Ruby, X. Gong, M. K. Ginnane, B. J. Henderson, L. Crandall, D. N. Polsin, T. R. Boehly, J. R. Rygg, G. W. Collins, D. Trail, A. Amouretti, M. Harmand, R. Torchio., F. Coppari, A. Coleman, and Y. Ping, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"Vacuum Acceleration of Electrons in a Dynamic Laser Pulse," D. Ramsey, P. Franke, T. T. Simpson, M. V. Ambat, D. H. Froula, and J. P. Palastro, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"X-Ray Diffraction Measurements of Dynamically Compressed Platinum," M. K. Ginnane, D. N. Polsin, X. Gong, T. R. Boehly, J. R. Rygg, G. W. Collins, A. Lazicki, R. Kraus, J. H. Eggert, M. C. Marshall, D. E. Fratanduono, J.-P. Davis, C. A. McCoy, C. Seagle, and S. Root, presented at the 62nd Annual Meeting of the American Physical Society Division of Plasmas Physics, virtual, 9–13 November 2020.

"MTW-OPAL: A Technology Development Platform for Ultra-Intense OPCPA Systems," J. Bromage, S.-W. Bahk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, B. N. Hoffman, C. Jeon, C. Mileham, J. B. Oliver, R. G. Roides, M. J. Shoup III, M. Spilatro, B. Webb, and J. D. Zuegel, presented at ELI-NP Autumn School (ELIAS 2020), virtual, 9 November 2020.

"Applications of Neutron Spectroscopy in High-Energy-Density Science," O. M. Mannion, K. S. Anderson, R. Betti, E. M. Campbell, D. Cao, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, J. P. Knauer, A. Lees, F. J. Marshall, Z. L. Mohamed, D. Patel, S. P. Regan, H. G. Rinderknecht, R. C. Shah, C. Stoeckl, W. Theobald, K. M. Woo, B. D. Appelbe, J. P. Chittenden, A. J. Crilly, W. Taitano, P. Adrian, J. A. Frenje, N. V. Kabadi, and M. Gatu Johnson, presented at the High Energy Density Science Association, virtual, 8 November 2020.

"Broadband Mitigation of the Multibeam Two-Plasmon Decay and Stimulated Raman Scattering Instabilities," R. K. Follett, J. G. Shaw, C. Dorrer, D. H. Edgell, D. H. Froula, H. Wen, J. Bromage, E. M. Hill, T. J. Kessler, A. V. Maximov, A. A. Solodov, E. M. Campbell, J. P. Palastro, J. F. Myatt, J. W. Bates, and J. L. Weaver, presented at the 4th Asia-Pacific Conference on Plasma Physics, virtual, 26–31 October 2020.

"Kinetic Inflation of Stimulated Raman Scattering Driven by a Broadband Frequency-Modulated Laser Pulse," H. Wen, R. K. Follett, A. V. Maximov, D. H. Froula, J. P. Palastro, and F. S. Tsung, presented at the 4th Asia-Pacific Conference on Plasma Physics, virtual, 26–31 October 2020.

"Scaling and Mitigation of Hot-Electron Preheat Polar-Direct-Drive Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, M. Stoeckl, A. R.

Christopherson, R. Betti, W. Seka, R. Epstein, C. Stoeckl, R. K. Follett, P. B. Radha, S. P. Regan, D. H. Froula, J. P. Palastro, V. N. Goncharov, J. F. Myatt, M. Hohenberger, B. Bachmann, and P. Michel, presented at the 4th Asia-Pacific Conference on Plasma Physics, virtual, 26–31 October 2020.

"Next Generation Petawatt Laser Technology," B. Webb, presented at the 8th Texas STEM Conference, virtual, 24 October 2020.

"Nuclear Science at the University of Rochester's Omega Laser Facility," C. J. Forrest, J. P. Knauer, W. U. Schröder, V. Yu. Glebov, O. M. Mannion, K. L. Marshall, Z. L. Mohamed, P. B. Radha, S. P. Regan, M. Romanofsky, T. C. Sangster, A. Schwemmlein, M. Sickles, C. Sorce, C. Stoeckl, and J. Szczepanski, presented at Ohio University, virtual, 20 October 2020.

"Photoswitchable Liquid Crystal Beam Shapers for High-Power Laser Applications," N. D. Urban, J. U. Wallace, K. L. Marshall, and S. G. Demos, presented at the Clarkson University Seminar, virtual, 13 October 2020.

"The Fundamental Mechanism of Laser-Induced Damage in Optical Components for Ultrashort-Pulse Laser Systems," S. G. Demos, K. R. P. Kafka, B. N. Hoffman, A. A. Kozlov, H. Huang, J. B. Oliver, A. L. Rigatti, T. J. Kessler, T. Z. Kosc, N. Liu, R. Dent, A. A. Shestopalov, and J. C. Lambropoulos, presented at the OSA Laser Congress, virtual, 12−16 October 2020.

"Computational Modeling and Design of Liquid Crystal Materials for Applications in the Terahertz Regime," B. E. Ugur, presented at the 2020 American Institute of Chemical Engineers Eckhardt Northeast Region Conference, virtual, 3–4 October 2020.

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"Constraints from Mineral Physics on Thermal and Magnetic States of Exoplanets," M. Zaghoo, H. Pantell, G. Tabak, L. Crandall, M. Huff, J. R. Rygg, G. W. Collins, S. X. Hu, V. V. Karasiev, D. N. Polsin, M. C. Marshall, R. Dias, E. Blackman, H. Aluie, P. M. Celliers, J. H. Eggert, D. E. Fratanduono, and S. Bonev, presented at Carnegie Earth and Planets Laboratory, virtual, 24 September 2020.

"Omega Basic Science User Program Update," M. S. Wei, Omega Laser Facility Users Group, virtual, 23–25 September 2020.

"Investigation of Excitation Dynamics in $HfO_2$ and $SiO_2$ Monolayers Using Subpicosecond Pump-and-Probe Damage Testing," K. R. P. Kafka, B. N. Hoffman, A. A. Kozlov, and S. G. Demos, presented at Laser Damage 2020, virtual, 13–16 September 2020.

"Multiphoton Absorption of Ultrashort Laser Pulses in Optical Materials of Multilayer Coatings at Near-Damage-Threshold Fluence," V. Gruzdev and K. R. P. Kafka, presented

at Laser Damage 2020, virtual, 13–16 September 2020.

"Study of Electric-Field Enhancement Caused by Debris on Laser Optics," H. Huang, K. R. P. Kafka, and S. G. Demos, presented at Laser Damage 2020, virtual, 13–16 September 2020.

E. M. Campbell, "A Vision of the Future for High-Power Lasers," presented at Laser Damage 2020, virtual, 13–16 September 2020.

"Full-Energy, Vacuum-Compatible, Single-Shot Pulse Characterization Method for Petawatt-Level Ultra-Broad Bandwidth Lasers Using Spatial Sampling," B. Webb, S.-W. Bahk, I. A. Begishev, C. Dorrer, C. Feng, C. Jeon, M. Spilatro, R. Roides, J. D. Zuegel, and J. Bromage, presented at the 9th EPS-QEOD Europhoton Conference, virtual, 30 August–4 September 2020.

"Overcoming Gas-Ionization Limits with Divided-Pulse Nonlinear Compression," G. W. Jenkins, C. Feng, and J. Bromage, presented at the 9th EPS-QEOD Europhoton Conference, virtual, 30 August–4 September 2020.

"The Self-Flying Focus: Nonlinear Spatiotemporal Control of Laser Intensity," T. T. Simpson, D. Ramsey, P. Franke, N. Vafaei-Najafabadi, D. H. Froula, and J. P. Palastro, presented at ELI Summer School, virtual, 26–28 August 2020.

"Computational Modeling and Design of Liquid Crystal Materials for Applications in the Terahertz Regime" K. L. Marshall, B. E. Ugur, and J. Travis, presented at SPIE Optics and Photonics, Liquid Crystals XXIV, virtual, 24–28 August 2020 (invited).

"Advanced IFE Target Designs with Next-Generation Laser Technologies," V. N. Goncharov, I. V. Igumenshchev, R. K. Follett, and T. J. B. Collins, presented at the BETHE Kickoff Workshop, virtual, 11–12 August 2020.

"A Simulation Resource Team for Innovative Fusion Concepts," P. Tzeferacos, A. B. Sefkow, C. Ren, R. Betti, J. R. Davies, and H. Wen, presented at the BETHE Kickoff Workshop, virtual, 11–12 August 2020.

"Application of Near-Field and Far-Field Beam Shaping Techniques for High-Power Lasers," S.-W. Bahk, I. A. Begishev, R Roides, D. H. Froula, J. Bromage, and J. D. Zuegel, Advanced Photonics Congress, virtual, 13–16 July 2020.

"NIF: An Unexpected Journey and Lessons Learned to Secure 'Projects of Scale,'" E. M. Campbell, LLNL Seminar, virtual, 9 July 2020.

"High Energy Density (HED) Quantum Matter," G. W. Collins, presented at the Office of Science Meeting, virtual, 29 June 2020.

"Laser-Based Microfabrication and Metrology of Laser-Driven Inertial Fusion Targets,"

D. R. Harding, S. M. Fess, M. J. Bonino, R. F. Earley, T. C. Sangster, E. M. Campbell, V. N. Goncharov, J. L. Peebles, M. D. Wittman, C. Stoeckl, Y.-F. Lu, P. Fan, and X. Huang, presented at the 21st International Symposium on Laser Precision Microfabrication, virtual, 23–26 June 2020.

"Laboratory for Laser Energetics (LLE) Contributions to the Stockpile Stewardship Mission," E. M. Campbell, presented at OES Executives Meeting, virtual, 23 June 2020.

"Progress in Flying Focus for Plasma-Based Applications: From Chromatic to Achromatic Flying Foci," D. H. Froula, J. P. Palastro, S.-W. Bahk, I. V. Begishev, R. Boni, J. Bromage, A. Davies, P. Franke, R. K. Follett, D. Haberberger, A. Howard, G. W. Jenkins, J. Katz, T. J. Kessler, J. B. Oliver, D. Ramsey, T. Simpson, J. L. Shaw, D. Turnbull, N. Vafaei-Najafabadi, and J. Vieira, presented at UR Colloquia, virtual, 17 June 2020.

"Direct-Drive Laser Fusion, Status, Plans, and the Future," presented at the Cornell University Talk, E. M. Campbell, virtual, 11 May 2020.

"Broadband Parametric-Gain Optimization of Partially Deuterated KDP with Two-Wavelength Tuning Curves," C. Dorrer, I. A. Begishev, S.-W. Bahk, and J. Bromage, presented at CLEO 2020, virtual, 10–15 May 2020.

"From Chromatic to Achromatic Flying Foci," D. H. Froula, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, A. Davies, P. Franke, R. K. Follett, D. Haberberger, A. Howard, G. W. Jenkins, J. Katz, T. J. Kessler, J. P. Palastro, J. B. Oliver, D. Ramsey, T. Simpson, J. L. Shaw, D. Turnbull, N. Vafaei-Najafabadi, and J. Vieira, presented at CLEO 2020, virtual, 10–15 May 2020.

"High-Efficiency Parametric Amplification of Broadband Spectrally Incoherent Pulses," C. Dorrer, E. M. Hill, and J. D. Zuegel, presented at CLEO 2020, virtual, 10–15 May 2020.

"Integrated-Flow Active Cooling for Thermal Management of Reflective Optics Under High-Average-Power Load," E. P. Power, J. Bromage, and J. D. Zuegel, presented at CLEO 2020, virtual, 10–15 May 2020.

"Nonlinear Crystals for Efficient High-Energy Fifth-Harmonic Generation of Near-IR Lasers," I. A. Begishev, V. V. Ivanov, S. Patankar, P. S. Datte, S. T. Yang, J. D. Zuegel, and J. Bromage, presented at CLEO 2020, virtual, 10–15 May 2020.

"Record-Bandwidth Spectrally Incoherent UV Laser Pulses," C. Dorrer, E. M. Hill, and T. Borger, presented at CLEO 2020, virtual, 10–15 May 2020.

"Ultrafast Multiphoton Absorption in Optical-Coating Materials at Near-Damage-Threshold Fluence," V. Gruzdev and K. R. P. Kafka, presented at CLEO 2020, virtual, 10–15 May 2020.

"Laboratory for Laser Energetics Contributions to the Stockpile Stewardship Mission," G. W. Collins, presented at the HEDP Briefing to DOE, virtual, 29 April 2019.

"Laser-Direct-Drive Inertial Confinement Fusion Research on OMEGA: Current Status," S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Betti, E. M. Campbell, K. A. Bauer, M. J. Bonino, D. Cao, A. R. Christopherson, G. W. Collins, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, P. Fan, M. Farrell, P. Fitzsimmons, C. J. Forrest, R. K. Follett, J. A. Frenje, D. H. Froula, M. Gatu Johnson, V. Yu. Glebov, V. Gopalaswamy, D. R. Harding, S. X. Hu, H. Huang, I. V. Igumenshchev, Y. Lu, R. Luo, D. W. Jacobs-Perkins, R. T. Janezic, M. Karasik, T. J. Kessler, J. P. Knauer, T. Z. Kosc, A. Lees, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, Z. L. Mohamed, S. F. B. Morse, P. M. Nilson, S. P. Obenschain, J. P. Palastro, D. Patel, J. L. Peebles, R. D. Petrasso, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, A. J. Schmitt, W. Seka, R. C. Shah, J. R. Rygg, J. G. Shaw, W. T. Shmayda, M. J. Shoup III, C. Shuldberg, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, W. Sweet, W. Theobald, D. Turnbull, J. Ulreich, L. J. Waxer, M. D. Wittman, K. M. Woo, and J. D. Zuegel, presented at High Energy Density Science, virtual, 20–24 April 2020.

"Spherical Shock Wave Experiments on the OMEGA Laser," J. J. Ruby, J. R. Rygg, D. A. Chin, C. J. Forrest, V. Yu. Glebov, C. Stoeckl, N. V. Kabadi, P. Adrian, B. Bachmann, Y. Ping, J. A. Gaffney, and G. W. Collins, presented at High Energy Density Science, virtual, 20–24 April 2020.

"Permeation Rate of Deuterium and Tritium Through Iron-Chromium-Aluminum Alloys," M. Sharpe, W. T. Shmayda, J. Wermer, and C. A. Bond, presented at Technology of Fusion Energy (TOFE) 2020, virtual, 20–23 April 2020.

"Tritium Concentration Profiles in Stainless-Steel 316 Samples," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at Technology of Fusion Energy (TOFE) 2020, virtual, 20–23 April 2020.

"Evidence for a $^{7}$Li State at $E_X$ = 10.2 MeV from Inelastic Neutron Scattering at 14 MeV," C. J. Forrest, G. Hale, W. U. Schroder, J. P. Knauer, P. B. Radha, V. Yu. Glebov, O. M. Mannion, Z. L. Mohamed, S. P. Regan, T. C. Sangster, A. Schwemmlein, and C. Stoeckl, presented at the APS April Meeting, virtual, 18–21 April 2020.

"Using the Multi-Terawatt Laser at the Laboratory for Laser Energetics to Generate a High-Yield, 0.5-MeV Deuteron Beam," A. K. Schwemmlein, W. U. Schröder, C. Stoeckl, C. J. Forrest, J. P. Knauer, and S. P. Regan, presented at the APS April Meeting, virtual, 18–21 April 2020.

M. S. Wei, "OMEGA EP Experimental Capability: First-Year LaserNetUS Experiments and Future Plans," presented at the LaserNetUS SAB and PI Meeting, Washington, DC, 3–4 March 2020.

J. L. Peebles, J. R. Davies, D. H. Barnak, T. Cracium, M. J. Bonino, and R. Betti, "Axial Proton Probing of Single and Double Plate Laser-Driven Coils," presented at the 2020 Stewardship Science Academic Programs Symposium, Washington, DC, 26–27 February 2020.

D. H. Froula, "Plasma Physics at the University of Rochester Laboratory for Laser Energetics," presented at the Office of Science, Rochester, NY, 24 February 2020.

M. Ghosh, S. Zhang, and S. X. Hu, "Nanodiamond Formation In Hydrocarbons Under Extreme Pressure-Temperature Conditions-Evidence from First Principles," presented at the 60th Sanibel Symposium, St. Simons Island GA, 16–21 February 2020.

V. V. Karasiev, J. Hinz, and S. X. Hu, "Characterization of the Liquid-Liquid Phase Transition in Dense Hydrogen: The Role of Accurate Exchange-Correlation and Nuclear Quantum Effects." presented at the 60th Sanibel Symposium, St. Simons Island GA, 16–21 February 2020.

M. K. Ginnane, D. N. Polsin, X. Gong, L. Crandall, T. R. Boehly, J. R. Rygg, G. W. Collins, A. Lazicki, R. Kraus, J. H. Eggert, M. C. Marshall, D. E. Fratanduono, J.-P. Davis, C. A. McCoy, C. Seagle, and S. Root, "X-Ray Diffraction of Platinum," presented at NIF User Group, Livermore, CA, 3–5 February 2020.

T. Z. Kosc, T. J. Kessler, H. Huang, and S. G. Demos, "Raman Polarizability Tensor in Potassium Dihydrogen Phosphate and Deuterated Potassium Dihydrogen Phosphate Crystals," presented at Photonics West 2020, San Francisco, CA, 1–6 February 2020.

## 2019

"Overview of the Cryogenic Implosion Campaign on the OMEGA Laser," R. Betti, V. Gopalaswamy, J. P. Knauer, A. R. Christopherson, D. Patel, K. M. Woo, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, D. T. Michel, C. J. Forrest, R. C. Shah, P. B. Radha, V. N. Goncharov, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, and R. D. Petrasso, presented at the Conference on High Intensity Laser and Attosecond Science in Israel, Tel Aviv, Israel, 9–11 December 2019.

"Three-Dimensional Diagnostics for Inertial Confinement Fusion Research on OMEGA," S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Betti, E. M. Campbell, K. A. Bauer, M. J. Bonino, D. Cao, G. W. Collins, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu Johnson, V. Yu. Glebov, V. Gopalaswamy, D. R. Harding, S. X. Hu, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, T. J. Kessler, J. P. Knauer, T. Z. Kosc, J. Kwiatkowski, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, Z. L. Mohamed, S. F. B. Morse, P. M. Nilson, J. P. Palastro, D. Patel, J. L. Peebles, R. D. Petrasso, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, W. Seka, R. C. Shah, J. R. Rygg, W. T.

Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, and K. M. Woo, presented at the Conference on High Intensity Laser and Attosecond Science in Israel, Tel Aviv, Israel, 9–11 December 2019 (invited).

"Mechanical Properties of Micrometer-Size Cellular Foam-Like Auxetic Structures," M. Wang and D. R. Harding, presented at the Materials Research Society Fall Meeting, Boston, MA, 1–6 December 2019.

"The Relationship Between the Processing Conditions for an Electron Cyclotron Resonance-(ECR) Microwave-(MW) CVD System and the Properties of Vapor Deposited Hydrocarbon Films," J. M. Garcia Figueroa and D. R. Harding, presented at the Materials Research Society Fall Meeting, Boston, MA, 1–6 December 2019.

"Overview of Fundamental Science Programs at the Omega Laser Facility," M. S. Wei, presented at SUNY Geneseo Colloquium, Geneseo, NY, 21 November 2019.

"Liquid Crystal Research at LLE: A 35-Year Journey from Information Displays to Laser Fusion and Beyond," K. L. Marshall, T. Z. Kosc, B. N. Hoffman, S. Papernov, A. A. Kozlov, S. G. Demos, J. Shojaie, C. Dorrer, D. Batesky, J. Wallace, S. Jacobs, A. Schmid, K. Richardson, J. Starowitz, S. H. Chen, T. Brown, and N. Tabiryan, presented at the Rochester OSA/SPIE Student Chapter Lecture Series, Rochester, NY, 12 November 2019.

"Frontiers in High-Energy-Density and Relativistic Plasma Physics Enabled by EP OPAL: A Multibeam Ultrahigh-Intensity Laser User Facility," J. D. Zuegel, J. Bromage, D. H. Froula, M. S. Wei, H. G. Rinderknecht, P. M. Nilson, S. X. Hu, F. Albert, B. M. Hegelich, M. Roth, and E. M. Campbell, presented at the 2nd American Physical Society Division of Plasma Physics Community Planning Process Workshop for High Energy Density Physics (HEDP), Palo Alto, CA, 11–14 November 2019.

"Spatiotemporally Structured Light for Advanced Accelerators and Radiation Sources," J. P. Palastro, D. H. Froula, J. L. Shaw, T. M. Antonsen, J. Vieira, N. Vafaei-Najafabadi, W. Mori, P. Franke, D. Ramsey, T. T. Simpson, K. Daub, M. S. Wei, J. D. Zuegel, and E. M. Campbell, presented at the 2nd American Physical Society Division of Plasma Physics Community Planning Process Workshop for High Energy Density Physics (HEDP), Palo Alto, CA, 11–14 November 2019.

"Relocation of the SPIE Laser Damage Conference to Rochester and Opportunities for Industrial Partners," S. G. Demos, presented at the Institute of Optics 2019 Fall Industrial Associates Symposium, Rochester, NY, 1 November 2019.

"Optical Materials Research at LLE," S. G. Demos, presented at the CEA Seminar, Bordeaux, France, 23 October 2019.

"Status FY19 OLUG Findings and Recommendations," M. S. Wei, presented at APS

DPP OLUG Update, Fort Lauderdale, FL, 22 October 2019.

"Absorption and Scattered-Light Asymmetry in OMEGA Implosions," D. H. Edgell, R. E. Bahr, J. Katz, and D. H. Froula, presented at the 61st Meeting of the American Physical Society Division of P lasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Analysis and Reconstruction of Highest-Performing OMEGA DT Layered Implosion Shot 90288," D. Patel, R. Betti, K. M. Woo, V. Gopalaswamy, J. P. Knauer, R. C. Shah, and A. Bose, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Analysis of Self-Emission from Spherical Shock Experiments," J. J. Ruby, J. R. Rygg, D. A. Chin, C. J. Forrest, V. Yu. Glebov, C. Stoeckl, G. W. Collins, B. Bachmann, J. A. Gaffney, Y. Ping, N. V. Kabadi, and P. Adrian, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Analysis of Shock-Release OMEGA EP Experiments," A. Shvydky, D. Haberberger, J. P. Knauer, S. X. Hu, S. T. Ivancic, J. Carroll-Nellenback, D. Cao, I. V. Igumenshchev, V. V. Karasiev, A. V. Maximov, S. P. Regan, P. B. Radha, T. C. Sangster, B. Boni, P. Nilson, V. N. Goncharov, D. H. Froula, and V. A. Smalyuk, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Anomalous Absorption by the Two-Plasmon–Decay Instability in Directly Driven Inertial Confinement Fusion Experiments," D. Turnbull, D. Cao, D. H. Edgell, R. K. Follett, D. H. Froula, V. N. Goncharov, A. V. Maximov, J. P. Palastro, W. Seka, C. Stoeckl, and H. Wen, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Broadband Mitigation of Laser–Plasma Instabilities," R. K. Follett, J. G. Shaw, D. H. Edgell, D. H. Froula, C. Dorrer, J. Bromage, E. M. Hill, T. J. Kessler, A. V. Maximov, A. A. Solodov, E. M. Campbell, J. P. Palastro, J. F. Myatt, J. W. Bates, and J. L. Weaver, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Broadband Smoothing of Laser Pulses for Imprint Reduction in Direct-Drive Inertial Confinement Fusion," J. Wilson, V. N. Goncharov, T. Simpson, D. Ramsey, C. Dorrer, A. Shvydky, D. H. Froula, and J. P. Palastro, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Cross-Beam Energy Transfer Experiments at High Ion-Acoustic Wave Amplitudes," A. M. Hansen, D. Turnbull, R. K. Follett, J. Katz, A. L. Milder, J. P. Palastro, K. L. Nguyen, D. Mastrosimone, D. H. Froula, L. Yin, and B. Albright, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale,

FL, 21–25 October 2019.

"Cross-Beam Energy Transfer in Offset Implosions on OMEGA," K. S. Anderson, J. A. Marozas, D. Cao, C. J. Forrest, O. M. Mannion, R. C. Shah, P. B. Radha, F. J. Marshall, T. J. B. Collins, J. P. Knauer, V. N. Goncharov, and M. Gatu Johnson, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Current Transients in Laser-Driven Coils," J. R. Davies, D. H. Barnak, R. Betti, T. Cracium, and J. L. Peebles, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Density Measurements of the Inner Shell Release," D. Haberberger, A. Shvydky, V. N. Goncharov, D. Cao, J. Carroll-Nellenback, S. X. Hu, S. T. Ivancic, V. V. Karasiev, J. P. Knauer, A. V. Maximov, and D. H. Froula, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Dephasingless Laser Wakefield Acceleration," J. P. Palastro, J. L. Shaw, D. Ramsey, T. T. Simpson, P. Franke, S. T. Ivancic, K. Daub, and D. H. Froula, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Direct Measurements of Hot-Electron Preheat in the Dense Fuel of Inertial Confinement Fusion Implosions," A. R. Christopherson, R. Betti, W. Theobald, C. J. Forrest, M. Wei, E. M. Campbell, J. Howard, M. J. Rosenberg, A. A. Solodov, D. Patel, J. A. Delettrez, C. Stoeckl, D. Edgell, W. Seka, V. Yu. Glebov, A. K. Davis, J. L. Peebles, A. V. Maximov, R. Simpson, M. Gatu Johnson, W. Scullin, V. Gopalaswamy, D. Cao, V. N. Goncharov, P. B. Radha, S. P. Regan, and R. Epstein, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019 (invited).

"The Effect of Laser Bandwidth on High-Performance Cryogenic Implosions," J. P. Knauer, R. Betti, V. Gopalaswamy, D. Cao, I. V. Igumenshchev, A. Shvydky, D. Patel, A. Lees, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. A. Marozas, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, M. Gatu Johnson, J. A. Frenje, and R. D. Petrasso, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Effect of Multibeam Two-Plasmon–Decay Instability on Cross-Beam Energy Transfer in Plasmas," A. V. Maximov, D. Turnbull, J. G. Shaw, R. K, Follett, and J. P. Palastro, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"The Effect of Self-Generated Magnetic Fields on Ablative Rayleigh–Taylor Instability

Dynamics," F. Garcia-Rubio, R. Betti, H. Aluie, and J. Sanz, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Enhanced Laser Energy Coupling with Small-Spot Distributed Phase Plates (SG5-650) in OMEGA Cryogenic Implosions," W. Theobald, D. Cao, R. C. Shah, K. A. Bauer, R. Betti, M. J. Bonino, E. M. Campbell, A. R. Christopherson, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, R. K. Follett, D. H. Froula, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, D. R. Harding, S. X. Hu, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, Z. L. Mohamed, S. F. B. Morse, P. M. Nilson, J. P. Palastro, D. Patel, J. L. Peebles, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, T. C. Sangster, W. Seka, M. J. Shoup III, W. T. Shmayda, A. Shvydky, C. Sorce, C. Stoeckl, C. Thomas, J. Ulreich, M. D. Wittman, S. P. Regan, B. Rice, M. Gatu Johnson, J. A. Frenje, and R. D. Petrasso, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Experimental Analysis of nT Kinematic Edge Data on OMEGA," O. M. Mannion, C. J. Forrest, D. Cao, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, J. P. Knauer, Z. L. Mohamed, S. P. Regan, T. C. Sangster, C. Stoeckl, A. J. Crilly, B. D. Appelbe, and J. P. Chittenden, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Evaluation of Ablator-Shell Contouring to Enhance the Performance of NIF Polar-Drive High Yield Source Experiments," P. W. McKenty, F. J. Marshall, D. R. Harding, R. S. Craxton, M. J. Rosenberg, J. A. Marozas, T. J. B. Collins, P. B. Radha, E. M. Campbell, B. E. Blue, C. B. Yeamans, W. W. Hsing, and M. Farrell, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"First Principles Investigation of the Insulator–Metal Transition in Liquid Hydrogen with a Recently Developed Deorbitalized meta-GGA Exchange-Correlation Functional," J. Hinz, V. V. Karasiev, S. X. Hu, M. Zaghoo, and D. Mejia-Rodriguez, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Fourth-Generation Laser for Ultra-Broadband Experiments—Expanding the ICF Design Space Through Mitigation of Laser–Plasma Instabilities," D. H. Froula, C. Dorrer, E. M. Hill, J. Bromage, T. J. Kessler, J. D. Zuegel, R. K. Follett, L. Nguyen, A. A. Solodov, J. P. Palastro, D. Turnbull, D. H. Edgell, J. G. Shaw, A. M. Hansen, A. L. Milder, J. Katz, R. Boni, V. N. Goncharov, M. Sherlock, H. Le, D. Strozzi, P. Michel, L. Divol, J. F. Myatt, W. Rozmus, J. W. Bates, A. Schmitt, J. Weaver, A. Colaïtis, L. Yin, and B. Albright, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Frequency Conversion of Laser Pulses Reflected from Ionization Waves of Arbitrary Velocity," P. Franke, J. P. Palastro, D. Turnbull, and D. H. Froula, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"High-Resolution X-Ray Imaging with Fesnel Zone Plates on the University of Rochester's OMEGA and OMEGA EP Laser Systems," F. J. Marshall, S. T. Ivancic, C. Mileham, P. M. Nilson, J. J. Ruby, B. S. Schiener, M. J. Schmitt, and C. A. Wilde, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Hot Electron Generation Mechanisms in Ignition-Scale Direct-Drive Coronal Plasmas on the NIF," M. J. Rosenberg, A. A. Solodov, W. Seka, R. K. Follett, A. V. Maximov, C. Ren, S. Cao, S. P. Regan, P. B. Radha, T. J. B. Collins, D. H. Froula, J. P. Palastro, V. N. Goncharov, J. F. Myatt, P. A. Michel, M. Hohenberger, G. Swadling, J. S. Ross, R. Scott, and K. Glize, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Hot-Electron Preheat and Energy Deposition in Direct-Drive Implosion Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, A. R. Christopherson, R. Betti, M. Stoeckl, W. Seka, R. Epstein, R. K. Follett, P. B. Radha, S. P. Regan, D. H. Froula, J. P. Palastro, V. N. Goncharov, J. F. Myatt, M. Hohenberger, B. Bachmann, and P. Michel, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Hot Spot and Fuel Imaging Using Nuclear Diagnostics on Direct-Drive Cryogenic Implosions at OMEGA," H. G. Rinderknecht, C. J. Forrest, J. P. Knauer, W. Theobald, S. P. Regan, R. Simpson, M. Gatu Johnson, and J. A. Frenje, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019

"Hot-Spot Flow Velocity in Laser-Direct-Drive Inertial Confinement Fusion Implosions," S. P. Regan, O. M. Mannion, C. J. Forrest, J. P. Knauer, R. Betti, E. M. Campbell, D. Cao, V. Yu. Glebov, V. N. Goncharov, S. T. Ivancic, F. J. Marshall, P. B. Radha, T. C. Sangster, R. C. Shah, C. Sorce, C. Stoeckl, and W. Theobald, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Impact of Non-Maxwellian Electron Distribution Functions on Crossed-Beam Energy Transfer," D. Turnbull, C. Dorrer, D. H. Edgell, R. K. Follett, D. H. Froula, A. M. Hansen, J. Katz, B. E. Kruschwitz, A. L. Milder, J. P. Palastro, A. Colaitis, T. Chapman, L. Divol, C. S. Goyon, P. Michel, J. D. Moody, B. B. Pollock, J. S. Ross, and D. J. Strozzi, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019 (invited).

"Impact of Self-Generated B-Fields on High-Energy-Density Experiments," D. Barnak,

K. Flippo, C. Kawaguchi, K. Kelso, H. Li, S. Li, E. Loomis, Y. Lu, N. Vazirani, A. Birkel, B. Lahmann, and C. K. Li, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Implosion Designs Varying Hot-Electron Production for Direct-Drive Inertial Confinement Fusion Implosions on OMEGA," D. Cao, D. Patel, M. J. Rosenberg, W. Theobald, C. Stoeckl, A. R. Christopherson, I. V. Igumenshchev, V. Gopalaswamy, S. P. Regan, C. Thomas, P. B. Radha, R. Betti, and V. N. Goncharov, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Improved Predictive Models and Further Progress in the Cryogenic Optimization Campaign on OMEGA," V. Gopalaswamy, R. Betti, J. P. Knauer, A. Lees, D. Patel, A. R. Christopherson, K. M. Woo, O. M. Mannion, Z. L. Mohamed, F. J. Marshall, C. Stoeckl, V. Yu. Glebov, S. P. Regan, R. C. Shah, D. H. Edgell, D. Cao, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, T. J. B. Collins, T. C. Sangster, E. M. Campbell, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Inferring the Thermal Ion Temperature and Residual Kinetic Energy from Nuclear Measurements in Inertial Confinement Fusion," K. M. Woo, R. Betti, O. M. Mannion, D. Patel, C. J. Forrest, J. P. Knauer, V. N. Goncharov, P. B. Radha, K. S. Anderson, R. Epstein, J. A. Delettrez, M. Charissis, A. Shvydky, I. V. Igumenshchev, V. Gopalaswamy, A. R. Christopherson, Z. L. Mohamed, D. Cao, H. Aluie, E. M. Campbell, R. Yan, P.-Y. Chang, A. Bose, D. Shvarts, and J. Sanz, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019 (invited).

"Influence of In-Flight Shape on Stagnation Performance in Direct-Drive Laser Implosion Experiments," R. C. Shah, I. V. Igumenshchev, C. J. Forrest, K. A. Bauer, E. M. Campbell, D. Cao, V. N. Goncharov, S. Sampat, and S. P. Regan, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Introduction to TriForce: A Multi-Physics Code for Hybrid Fluid-Kinetic Simulations," A. B. Sefkow, J. G. Shaw, J. Carroll-Nellenback, S. Pai, E. G. Blackman, D. Cao, J. R. Davies, R. K. Follett, A. Frank, J. L. Giuliani, M. Haddad, E. C. Hansen, S. B. Hansen, S. X. Hu, A. Kish, M. Lavell, R. L. McCrory, P. W. McKenty, P. M. Nilson, A. Shvydky, R. B. Spielman, A. Tu, A. Velberg, and A. L. Velikovich, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Investigating Small-Scale Mix in Direct-Drive Cryogenic DT Implosions with Radiography on OMEGA," C. Stoeckl, T. J. B. Collins, R. Epstein, V. N. Goncharov, R. K. Jungquist, C. Mileham, P. B. Radha, S. P. Regan, T. C. Sangster, and W. Theobald,

presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"An Investigation of Monoenergetic Electron Beams for High-Energy-Density and Inertial Confinement Fusion Diagnostics, " G. Bruhaug, H. G. Rinderknecht, M. S. Wei, G. W. Collins, J. R. Rygg, and J. L. Shaw, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Magnetic Reconnection in the High-Energy-Density Regime," P. M. Nilson, I. V. Igumenshchev, R. Betti, D. H. Froula, L. Gao, J. Matteucci, W. Fox, M. G. Haines, and D. D. Meyerhofer, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019 (invited).

"Measurements of Arbitrary Electron Distribution Functions Using Angularly Resolved Thomson Scattering," A. L. Milder, J. Katz, R. Boni, D. Nelson, J. P. Palastro, K. Daub, R. K. Follett, and D. H. Froula, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Measurements of Laser-Imprint–Induced Shock-Velocity Nonuniformities and Laser-Imprint Mitigation," J. L. Peebles, S. X. Hu, W. Theobald, V. N. Goncharov, N. Whiting, E. M. Campbell, T. R. Boehly, S. P. Regan, P. M. Celliers, S. J. Ali, and G. Duchateau, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Microcoulomb-Class Self-Modulated Laser Wakefield Accelerator on OMEGA EP," J. L. Shaw, M. A. Romo-Gonzales, M. M. McKie, J. P. Palastro, D. H. Froula, P. M. King, N. Lemos, G. J. Williams, H. Chen, and F. Albert, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019 (invited).

"Mitigation of Stimulated Raman Scattering with Laser Bandwidth and an External Magnetic Field," H. Wen, B. J. Winjum, F. S. Tsung, and W. B. Mori, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Mixing at the Fuel–Ablator Interface in Backlit OMEGA Cryogenic Implosions," T. J. B. Collins, C. Stoeckl, R. Epstein, S. Miller, J. A. Marozas, K. S. Anderson, D. Cao, O. M. Mannion, R. Betti, J. A. Delettrez, W. A. Bittle, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, C. Mileham, D. T. Michel, R. L. McCrory, P. W. McKenty, F. J. Marshall, S. F. B. Morse, P. B. Radha, S. P. Regan, B. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Neutron Yield Enhancement and Suppression by Magnetization in Laser-Driven

Cylindrical Implosions," E. C. Hansen, J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, V. Yu. Glebov, J. P. Knauer, J. L. Peebles, A. B. Sefkow, and K. M. Woo, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019 (invited).

"New Fast Neutron Time-of-Flight Detectors with Subnanosecond Instrument Response Function for DT Implosions on OMEGA," V. Yu. Glebov, C. J. Forrest, J. P. Knauer, O. M. Mannion, S. P. Regan, M. H. Romanofsky, T. C. Sangster, and C. Stoeckl, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"NIF Polar-Drive High DT-Yield Exploder-Pusher Designs Modeled Using Pump-Depletion in *DRACO*," J. A. Marozas, P. W. McKenty, T. J. B. Collins, M. J. Rosenberg, P. B. Radha, S. P. Regan, S. Miller, E. M. Campbell, B. E. Blue, L. Divol, W. W. Hsing, G. E. Kemp, C. B. Yeamans, and H. D. Whitley, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Nonlinear Self-Focusing of Flying Focus Pulses," T. T. Simpson, D. H. Froula, and J. P. Palastro, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Observed Variations in Areal Densities as Measured by Detectors Along Multiple Lines of Sight," Z. L. Mohamed, C. J. Forrest, J. P. Knauer, R. Simpson, and M. Gatu Johnson, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Review of BigFoot Implosion Data at NIF," C. A. Thomas, K. L. Baker, D. T. Casey, M. Hohenberger, A. L. Kritcher, B. K. Spears, S. Khan, R. Nora, T. Woods, J. L. Milovich, R. L. Berger, D. Strozzi, D. D. Ho, D. Clark, B. Bachmann, R. Benedetti, R. Bionta, P. M. Celliers, D. Fittinghoff, G. Grim, R. Hatarik, N. Izumi, G. Kyrala, T. Ma, M. Millot, S. R. Nagel, P. K. Patel, C. B. Yeamans, M. Tabak, M. Gatu Johnson, P. L. Volegov, and E. M. Campbell, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Self-Radiography of Imploded Shells on OMEGA Based on Additive-Free Multi-Monochromatic Continuum Spectral Analysis," R. Epstein, C. Stoeckl, P. B. Radha, T. J. B. Collins, D. Cao, R. C. Shah, D. Cliche, and R. C. Mancini, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Simulation Study of Nonlinear Saturation of Cross-Beam Energy Transfer in TOP9 Experiments at the Omega Laser Facility," K. L. Nguyen, L. Lin, B. J. Albright, A. M. Hansen, D. H. Froula, D. Turnbull, and J. P. Palastro, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Simulations of Double Cone-in-Shell Implosions for an X-Ray Backlighting Source at the National Ignition Facility," R. S. Craxton, A. Sharma, Y. Yang, R. F. Heeter, Y. P. Opachich, T. Cardenas, H. M. Johns, and T. S. Perry, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"A Study of Internal Perturbation Evolution in Inertial Confinement Fusion Implosions," S. C. Miller, P. B. Radha, V. N. Goncharov, T. J. B. Collins, J. A. Marozas, and A. Shvydky, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Study of Laser-Driven Magnetic Fields in the Coil Target," V. V. Ivanov, A. L. Astanovitskiy, N. L. Wong, K. J. Swanson, I. A. Begishev, J. Bromage, J. R. Davies, A. V. Maximov, C. Mileham, and C. Stoeckl, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"The Study of Thermal Transport in Magnetized Laser-Produced Plasmas." Z. Barfield, D. H. Froula, and J. L. Peebles, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"A Survey of Different Perturbation Amplification Mechanisms in the Early Stages of Inertial Confinement Fusion Implosions," V. N. Goncharov, S. C. Miller, and P. B. Radha, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Systematic *Ab-Initio* Calculations of Optical Properties of Silicon for Inertial Confinement Fusion Applications," V. V. Karasiev, S. X. Hu, and L. Calderin, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Temperature-Induced Changes in hP4-Sodium Electride: An *Ab-Initio* Study," R. Paul, S. X. Hu, V. V. Karasiev, and S. A. Bonev, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Three Dimensional Gated Hot-Spot X-Ray Imaging on OMEGA," S. T. Ivancic, F. J. Marshall, W. Theobald, C. Sorce, D. Cao, I. V. Igumenshchev, S. P. Regan, R. C. Shah, J. P. Knauer, V. N. Goncharov, R. Betti, and T. C. Sangster, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Three-Dimensional Hydrodynamic Modeling of OMEGA Direct-Drive Cryogenic Implosions with the Highest Fusion Yield," I. V. Igumenshchev, R. Betti, E. M. Campbell, D. Cao, C. J. Forrest, V. N. Goncharov, V. Gopalaswamy, J. P. Knauer, O. M. Mannion, D. Patel, S. P. Regan, R. C. Shah, and A. Shvydky, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale,

FL, 21–25 October 2019.

“Three-Dimensional Modeling of Laser–Plasma Confinement in a Strong Magnetic Field,” L. S. Leal, A. V. Maximov, A. B. Sefkow, R. Betti, and V. V. Ivanov, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

“Toward Advanced Modeling of Transport in Magnetized Inertial Confinement Fusion Targets,” A. Kish, A. B. Sefkow, J. Giuliani, A. Velikovich, S. Zalesak, and A. Schmitt, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

“Toward Optimizing Cryogenic Inertial Confinement Fusion Implosions,” A. Lees, R. Betti, J. P. Knauer, V. Gopalaswamy, D. Patel, A. R. Christopherson, K. M. Woo, O. M. Mannion, Z. L. Mohamed, F. J. Marshall, C. Stoekl, V. Yu. Glebov, S. P. Regan, R. C. Shah, D. H. Edgell, C. Cao, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, T. J. B. Collins, T. C. Sangster, E. M. Campbell, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

“Understanding Laser-Imprint Effects on Cryogenic DT Implosions on OMEGA,” S. X. Hu, R. C. Shah, J. Baltazar, D. Cao, S. P. Regan, V. N. Goncharov, P. B. Radha, J. L. Peebles, W. Theobald, R. Betti, E. M. Campbell, G. Duchateau, A. Casner, and V. T. Tikhonchuk, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

“Vacuum Acceleration in a Flying Focus,” D. W. Ramsey, D. H. Froula, and J. P. Palastro, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

“Validating Direct-Drive Implosion Energetics Based on OMEGA and NIF Experiments,” P. B. Radha, M. J. Rosenberg, A. Shvydky, W. Theobald, D. Turnbull, F. J. Marshall, K. S. Anderson, R. Betti, E. M. Campbell, V. N. Goncharov, T. J. B. Collins, R. S. Craxton, J. A. Marozas, P. W. McKenty, S. P. Regan, T. C. Sangster, C. B. Yeamans, B. E. Blue, W. W. Hsing, and R. Scott, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

“Wide-Range EOS of Carbon and Boron Materials from First Principles,” S. Zhang, H. Whitley, L. Benedict, L. Yang, K. Caspersen, J. Gaffney, M. Däne, J. Pask, P. Sterne, T. Ogitsu, A. Lazicki, M. Marshall, D. Swift, M. Martin, R. London, A. Kritcher, J. Nilsen, N. Kostinski, B. Maddox, B. Militzer, K. Driver, F. Soubiran, A. Sharma, P. Suryanarayana, D. D. Johnson, A. V. Smirnov, S. X. Hu, and W. Johnson, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"X-Ray Diffraction of Double-Shocked Diamond," D. N. Polsin, G. W. Collins, L. Crandall, X. Gong, R. Saha, M. Huff, G. Tabak, Z. K. Sprowal, T. R. Boehly, M. Zaghoo, J. R. Rygg, P. M. Celliers, D. E. Fratanduono, Y. Ping, J. H. Eggert, D. H. Munro, A. Lazicki, and D. G. Hicks, presented at the 61st Meeting of the American Physical Society Division of Plasma Physics, Fort Lauderdale, FL, 21–25 October 2019.

"Inelastic Reaction of 14-MeV Neutrons with $^{7}$Li," C. J. Forrest, V. Yu. Glebov, J. P. Knauer, O. M. Mannion, Z. Mohamed, P. B. Radha, S. P. Regan, T. C. Sangster, A. Schwemmlein, C. Stoeckl, W. U. Schröder, and G. M. Hale, presented at APS Division of Nuclear Physics Fall Meeting, Arlington, VA, 14–17 October 2019.

"LaserNetUS," M. S. Wei, presented at Laserlab Conference, Florence, Italy, 11 October 2019.

"EP OPAL: A Multibeam Ultrahigh-Intensity Laser User Facility for New Frontiers in High-Energy-Density and Relativistic Physics," M. S. Wei, J. D. Zuegel, H. G. Rinderknecht, J. Bromage, P. M. Nilson, S. X. Hu, D. H. Froula, F. Albert, B. M. Hegelich, M. Roth, and E. M. Campbell, presented at the First ELI-NP User Workshop, Magurele, Romania, 7–11 October 2019.

"Characterization of Spatiotemporal Coupling with Multispectral Hartmann Wavefront Sensor," C. Dorrer and S.-W. Bahk, presented at Ultrafast Optics XII, Bol, Croatia, 6–11 October 2019.

"Review of the LLE-CELIA Shock-Ignition Collaboration over the Last Ten Years," W. Theobald, presented at the CELIA Anniversary, Talence, France, 1 October 2019.

"Status and Prospects for Nuclear Fusion with Lasers," R. Betti, presented at FisMat 2019, Catania, Italy, 30 September–4 October 2019 (invited).

"Opportunities for U.S.-ELI Collaborations: Laboratory for Laser Energetics Perspective," M. S. Wei, presented at the U.S.-ELI Joint Workshop, Washington, DC, 25 September 2019.

"Laboratory for Laser Energetics," J. D. Zuegel, presented at the Visit of the Honorable Carl Heastie Speaker of the NYS Assembly, Rochester, NY, 23 September 2019.

"Breakdown of Fermi Degeneracy in Shocked Deuterium," M. Zaghoo, T. R. Boehly, J. R. Rygg, P. M. Celliers, S. X. Hu, and G. W. Collins, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Direct-Drive Double-Shell ($D^3S$) Implosion: A Platform for Burning-Plasma Studies," S. X. Hu, R. Epstein, W. Theobald, V. N. Goncharov, S. P. Regan, P. W. McKenty, R. Betti, E. M. Campbell, H. Xu, H. Huang, and D. S. Montgomery, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan,

22–27 September 2019.

"Direct-Drive Physics at the National Ignition Facility," P. B. Radha, M. J. Rosenberg, A. Shvydky, A. A. Solodov, R. Betti, E. M. Campbell, T. J. B. Collins, R. S. Craxton, V. N. Goncharov, J. A. Marozas, F. J. Marshall, S. P. Regan, T. C. Sangster, and D. Turnbull, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"The Effect of Self-Generated Magnetic Fields on the Ablative Rayleigh–Taylor Instability Dynamics," F. García Rubio, R. Betti, and H. Aluie, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Knock-On Deuteron Imaging to Diagnose Hot-Spot Fuel and $\rho R$ Symmetry in Directly Driven Inertial Confinement Fusion Implosions," H. Rinderknecht, C. J. Forrest, J. P. Knauer, W. Theobald, S. P. Regan, R. Simpson, and J. A. Frenje, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Multidimensional Effects on Hot-Spot Formation in OMEGA DT Cryogenic Implosions," S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Betti, E. M. Campbell, K. A. Bauer, T. R. Boehly, M. J. Bonino, D. Cao, A. R. Christopherson, G. W. Collins, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, R. K. Follett, D. H. Froula, V. Yu. Glebov, V. Gopalaswamy, D. R. Harding, S. X. Hu, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, Z. L. Mohamed, S. F. B. Morse, P. M. Nilson, J. P. Palastro, D. Patel, J. L. Peebles, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, W. Seka, R. C. Shah, J. R. Rygg, J. G. Shaw, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, K. M. Woo, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, M. Karasik, S. P. Obenschain, A. J. Schmitt, T. J. Hilsabeck, K. Englehorn, J. D. Kilkenny, J. D. Hares, A. K. L. Dymoke-Bradshaw, P. Bell, A. Carpenter, D. K. Bradley, S. Nagel, G. Rochau, and L. Claus, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"A Path to an Expanded Inertial Confinement Fusion Design Space Through a Better Understanding and Mitigation of Laser–Plasma Instabilities," D. H. Froula, C. Dorrer, E. M. Hill, J. Bromage, T. J. Kessler, J. D. Zuegel, R. K. Follett, L. Nguyen, A. A. Solodov, J. P. Palastro, D. Turnbull, D. H. Edgell, J. G. Shaw, A. M. Hansen, A. L. Milder, J. Katz, R. Boni, V. N. Goncharov, M. Sherlock, H. Le, D. J. Strozzi, P. Michel, L. Divol, J. F. Myatt, W. Rozmus, J. Bates, A. Schmitt, J. Weaver, A. Colaïtis, L. Yin, and B. Albright, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Progress Toward the Demonstration of Burning Plasma in the U.S. Inertial Confinement

Fusion Program," V. N. Goncharov, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Statistically Guided Design of Direct-Drive Inertial Confinement Fusion Experiments," V. Gopalaswamy, R. Betti, J. P. Knauer, A. Lees, D. Patel, A. R. Christopherson, K. M. Woo, O. M. Mannion, Z. L. Mohammed, F. J. Marshall, C. Stoeckl, V. Yu. Glebov, S. P. Regan, R. C. Shah, D. H. Edgell, D. Cao, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, T. J. B. Collins, T. C. Sangster, E. M. Campbell, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Theory of Ignition and Burn Propagation in Inertially Confined Plasmas," A. R. Christopherson, R. Betti, S. Miller, V. Gopalaswamy, D. Cao, and O. M. Mannion, presented at the 11th International Conference on Inertial Fusion Science and Applications, Osaka, Japan, 22–27 September 2019.

"Novel Techniques and Uses of Collective Thomson Scattering," A. Milder, J. Katz, R. Boni, D. Nelson, J. P. Palastro, A. M. Hansen, D. Turnbull, P. Franke, S. T. Ivancic, J. L. Shaw, K. Daub, R. K. Follett, D. H. Froula, H. Le, M. Sherlock, and W. Rozmus, presented at Laser Aided Plasma Diagnostics 2019, Whitefish, MT, 22–26 September 2019.

"Chemical Composition, Structure Morphology, Contaminant Cleaning, and Laser-Induced–Damage Threshold in Coarse Fused-Silica Gratings," A. A. Shestopalov, N. Liu, B. N. Hoffman, A. A. Kozlov, and S. G. Demos, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Coatings for Large-Aperture Laser Systems," J. B. Oliver, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Damage Morphology and Damage-Initiation Mechanisms in Multilayer Dielectric Gratings at Different Pulse Durations," B. N. Hoffman, A. A. Kozlov, J. B. Oliver, T. J. Kessler, A. L. Rigatti, S. G. Demos, A. Shestopalov, and N. Liu, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Laser-Induced–Damage Behavior of Novel Glassy Liquid Crystal Materials at 1 ns and Multiple Wavelengths," J. U. Wallace, K. L. Marshall, T. Z. Kosc, D. J. Batesky, B. N. Hoffman, S. Papernov, L. Garrett, J. Shojaie, and S. G. Demos, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Review of Decade-Long Monitoring of Damage Resistance of Multilayer Dielectric Gratings Inside the Vacuum Compressor Chamber on OMEGA EP," A. A. Kozlov, D. Canning, B. N. Hoffman, B. E. Kruschwitz, A. L. Rigatti, and L. J. Waxer, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Round-Robin Measurements of Optical Monolayer Laser-Induced–Damage Threshold in the Subpicosecond Range," L. Lamaignère, A. Ollé, M. Chorel, N. Roquin, A. A.

Kozlov, B. N. Hoffman, J. B. Oliver, L. Gallais, S. G. Demos, and A. Melninkaitis, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Short-Pulse Laser Irradiation of Microparticle Contamination on Reflective Optics," K. R. P. Kafka, S. G. Demos, and B. N. Hoffman, presented at Laser Damage 2019, Boulder, CO, 22–25 September 2019.

"Flying Focus: Spatiotemporal Control of Intensity for Laser-Based Applications," D. H. Froula, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, A. Davies, R. K. Follett, D. Haberberger, A. Howard, G. Jenkins, J. Katz, T. J. Kessler, L. Nguyen, J. P. Palastro, D. Ramsey, J. L. Shaw, D. Turnbull, N. Vafaei-Najafabadi, J. Vieira, and F. Quere, presented at the U.S.-Japan Workshop on Theory and Simulations of High Energy Density Physics with Extreme Fields, Osaka, Japan, 21–22 September 2019.

"Megatesla Magnetic Fields and Efficient Gamma Ray Generation Using Microstructured Targets: Preparations for Experiments at TPW," H. G. Rinderknecht, M. S. Wei, J. P. Palastro, G. Bruhaug, A. Arefiev, T. Wang, T. Toncian, H. J. Quevedo, T. Ditmire, and J. Williams, presented at the U.S.-Japan Workshop on Theory and Simulations of High Energy Density Physics with Extreme Fields, Osaka, Japan, 21–22 September 2019.

"Distribution of Tritium in the Near Surface of 316 Stainless Steel," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at the 41st Tritium Focus Group Meeting, Augusta, GA, 17–19 September 2019.

"Making an Optimal Hafnium Oxide Film as a Hydrogen Diffusion Barrier," D. Bassler, presented at the 41st Tritium Focus Group Meeting, Augusta, GA, 17–19 September 2019.

"Measurement of Palladium Hydride Isotherms Between 130 K and 393 K Using Pure $H_2$, Pure $D_2$, and HD Mixtures," M. Sharpe and W. T. Shmayda, presented at the 41st Tritium Focus Group Meeting, Augusta, GA, 17–19 September 2019.

"The Brightest Light Initiative (BLI): A Path Forward for Ultra-Intense Ultrafast Lasers in the U.S.," J. D. Zuegel, presented at Frontiers in Optics, Washington, DC, 15–19 Septetmber 2019.

"Frontiers in Physics Enabled by EP OPAL: A Multibeam Ultra-Intense Laser User Facility," H. G. Rinderknecht, D. H. Froula, S. X. Hu, P. M. Nilson, and J. D. Zuegel, presented at ExHILP 2019, Stanford, CA, 3–6 September 2019.

"Imaging Thomson Scattering: Measuring Plasma Conditions in a Strong Shock," H. G. Rinderknecht, H. S. Park, J. S. Ross, P. A. Amendt, D. P. Higginson, S. C. Wilks, R. K. Follett, D. Haberberger, J. Katz, D. H. Froula, N. M. Hoffman, G. Kagan, B. Keenan, A. Simakov, L. Chacon, and E. Vold, presented at the International Workshop on Optical Thomson Scattering, Rochester, NY, 13–14 August 2019.

"Investigation of Electron Plasma Waves and Picosecond Thermodynamics in a Laser-Produced Plasma Using Thomson Scattering," A. S. Davies, J. Katz, S. Bucht, D. Haberberger, J. P. Palastro, J. L. Shaw, D. Turnbull, R. Boni, I. A. Begishev, S.-W. Bahk, J. Bromage, A. Sorce, J. Konzel, R. Cuffney, J. D. Zuegel, D. H. Froula, and W. Rozmus, presented at the International Workshop on Optical Thomson Scattering, Rochester, NY, 13–14 August 2019.

"Lessons Learned from the Implementation and Operation of the OMEGA Thomson Scattering System," J. Katz, presented at the International Workshop on Optical Thomson Scattering, Rochester, NY, 13–14 August 2019.

"Measurements of Arbitrary Distribution Functions Using Angularly Resolved Thomson Scattering," A. L. Milder, J. Katz, R. Boni, D. Nelson, J. P. Palastro, K. Daub, R. K. Follett, and D. H. Froula, presented at the International Workshop on Optical Thomson Scattering, Rochester, NY, 13–14 August 2019.

"Phase Plates in Thomson-Scattering Experiments," A. M. Hansen, D. Turnbull, J. Katz, A. L. Milder, J. P. Palastro, D. Mastrosimone, and D. H. Froula, presented at the International Workshop on Optical Thomson Scattering, Rochester, NY, 13–14 August 2019.

"Subtleties to Fitting Thomson-Scattering Spectra," R. K. Follett, J. A. Delettrez, D. H. Edgell, R. J. Henchen, J. Katz, J. F. Myatt, and D. H. Froula, presented at the International Workshop on Optical Thomson Scattering, Rochester, NY, 13–14 August 2019.

"Design of an Image-Relay Optical Time-Domain Reflectometer to Measure Fiber-Optic Time Delays at Inertial Confinement Fusion Relevant Wavelengths," T. Filkins, J. Katz, and S. T. Ivancic, presented at SPIE Optical Engineering and Applications, San Diego, CA, 11–15 August 2019.

"UV-Transmissive Glassy Liquid Crystals Employing Chiral Synthons Based on Natural Products," K. L. Marshall, D. J. Batesky, J. U. Wallace, L. Garrett, T. Z. Kosc, S. Papernov, B. N. Hoffman, and J. Shojaie, presented at SPIE Optics and Photonics, Liquid Crystals XXIII, San Diego, CA, 11–15 August 2019 (invited).

"*HYDRA* Modeling of Laser-Ablated Plasma in Megagauss Magnetic Fields," L. S. Leal, A. V. Maximov, R. Betti, A. B. Sefkow, and V. Ivanov, presented at the Tenth Workshop on Fundamental Science With Pulsed Power and User Meeting, Albuquerque, NM, 11–14 August 2019.

"OMEGA-Z: A 15-TW Pulsed-Power Facility for High-Energy-Density Physics," R. B. Spielman and E. M. Campbell, presented at the Z Fundamental Science Program Workshop, Albuquerque, NM, 11–14 August 2019.

"Extreme Matters: Pressure to Explore Planets and Revolutionary Materials," G. W. Collins, presented at the 27th International Conference on High Pressure Science and Technology (AIRAPT27), Rio de Janeiro, Brazil, 4–9 August 2019.

"LaserNetUS-OMEGA EP Laser System and Experimental Capability," M. S. Wei, presented at LaserNetUS Virtual Meeting, 29 July 2019.

"Broadband Smoothing of Laser Pulses for Imprint Reduction in Direct-Drive Inertial Confinement Fusion," J. Wilson, V. N. Goncharov, C. Dorrer, A. Shvydky, and J. P. Palastro, presented at High-Energy-Density Science Summer School, La Jolla, CA, 28 July–10 August 2019.

"Nonlinear Self-Focusing of Flying Focus Planes," T. T. Simpson, D. H. Froula, J. Vieira, and J. P. Palastro, presented at High-Energy-Density Science Summer School, La Jolla, CA, 28 July–10 August 2019.

"Preliminary Work Toward an Investigation of Burn-Wave Propagation in Magnetized Cylindrical Targets," A. Kish and A. B. Sefkow, presented at High-Energy-Density Science Summer School, La Jolla, CA, 28 July–10 August 2019.

"Frontiers in High-Energy-Density and Relativistic Plasma Physics Enabled by EP-OPAL: A Multibeam Ultrahigh-Intensity Laser User Facility," H. G. Rinderknecht, J. D. Zuegel, J. Bromage, M. S. Wei, P. M. Nilson, S. X. Hu, D. H. Froula, F. Albert, B. Manuel Hegelich, M. Roth, and E. M. Campbell, presented at the Discovery Plasma Science Community Planning Workshop, Madison, WI, 23–25 July 2019.

"Frontiers in High-Energy-Density and Relativistic Plasma Physics Enabled by EP-OPAL: A Multibeam Ultrahigh-Intensity Laser User Facility," M. S. Wei, H. G. Rinderknecht, J. D. Zuegel, J. Bromage, P. M. Nilson, S. X. Hu, D. H. Froula, F. Albert, B. Manuel Hegelich, M. Roth, and E. M. Campbell, presented at the First Community Workshop for High Energy, College Park, MD, 16–17 July 2019.

"Lessons from Glenzer: Measuring Electron Distribution Functions with Thomson Scattering," D. H. Froula, presented at the Workshop on High-Energy-Density Physics, Rostock, Germany, 12 July 2019.

"Investigation of Electron Plasma Waves and Picosecond Thermodynamics in a Laser-Produced Plasma Using Thomson Scattering," A. S. Davies, J. Katz, S. Bucht, D. Haberberger, J. P. Palastro, J. L. Shaw, D. Turnbull, R. Boni, I. A. Begishev, S.-W. Bahk, J. Bromage, A. Sorce, J. Konzel, B. Cuffney, J. D. Zuegel, D. H. Froula, W. Rozmus, J. D. Sadler, R. Trines, R. Bingham, and P. A. Norreys, presented at the 46th European Physical Society Conference on Plasma Physics, Milan, Italy, 8–12 July 2019.

"High-Energy-Density Physics Research at the Laboratory for Laser Energetics," V. N. Goncharov, presented at JOWOG 37, Aldermaston, UK, 8–11 July 2019.

"Phase Retrieval Using Gaussian Basis Functions," S.-W. Bahk, presented at Computational Optical Sensing and Imaging, Munich, Germany, 24–27 June 2019.

"Prediction of Deuterium–Tritium Ice Layer Uniformity in Direct-Drive Confinement Fusion Target Capsules," B. Rice, J. Ulreich, and M. J. Shoup III, presented NAFEMS World Congress 2019, Quebec City, Canada, 17–20 June 2019.

"Characterization of Mid-Chain Transmission and Losses on OMEGA," J. Kwiatkowski, S. Sampat, K. A. Bauer, B. Ehrich, V. Guiliano, J. H. Kelly, T. Z. Kosc, R. G. Peck, and L. J. Waxer, presented at the 12th International Laser Operations Workshop 2019, Aldermaston, UK, 17–20 June 2019.

"Formalized Incident Investigation, Reporting, and Recurrence Mitigation," D. Canning, presented at the 12th International Laser Operations Workshop 2019, Aldermaston, UK, 17–20 June 2019.

"Improvements to Omega Disk Amplifier Performance Through Analysis of High-Resolution Flash-Lamp Waveforms," S. Householder, G. Brent, J. Coon, M. Labuzeta, M. Barczys, J. H. Kelly, B. Kruschwitz, T. Smith, and S. F. B. Morse, presented at the 12th International Laser Operations Workshop 2019, Aldermaston, UK, 17–20 June 2019.

"Omega Facility Overview," L. J. Waxer, presented at the 12th International Laser Operations Workshop 2019, Aldermaston, UK, 17–20 June 2019.

"On-Shot, In-Tank Measurements of the OMEGA Laser System Focal Spot." K. A. Bauer, M. Heimbueger, S. Sampat, L. J. Waxer, E. C. Cost, J. H. Kelly, V. Kobilansky, J. Kwiatkowski, S. F. B. Morse, D. Nelson, D. Weiner, G. Weselak, and J. Zou, presented at the 12th International Laser Operations Workshop 2019, Aldermaston, UK, 17–20 June 2019.

"Qualification Process for Experimental Users at the Omega Laser Facility," M. Labuzetta, J. Armstrong, M. Bonino, D. Canning, A. Consentino, S. Householder, M. Krieger, G. Pien, and C. Sorce, presented at the 12th International Laser Operations Workshop 2019, Aldermaston, UK, 17–20 June 2019.

"Atomic and Electronic Structure of Warm Dense Silicon," R. Saha, J. Topp-Mugglestone, G. Gregori, T. R. Boehly, G. W. Collins, S. P. Regan, T. G. White, and J. R. Rygg, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"A Broadband Reflectance Diagnostic for Matter at Extreme Conditions," B. J. Henderson, T. R. Boehly, M. Zaghoo, J. R. Rygg, D. N. Polsin, X. Gong, L. Crandall, M. F. Huff, M. K. Ginnane, G. W. Collins, S. Ali, P. M. Celliers, R. Briggs, M. Gorman, M. Marshall, and J. H. Eggert, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Diamond Formation from Hydrocarbons in Planetary Conditions: An *Ab Initio* Study," M. Ghosh and S. X. Hu, presented at the 21st Biennial Conference of the APS Topical

Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Double Shock in Polystyrene," Z. K. Sprowal, D. N. Polsin, T. R. Boehly, D. G. Hicks, J. R. Rygg, G. W. Collins, and M. F. Huff, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Dynamic Precompression: Secondary Hugoniot of MgO," L. Crandall, G. Tabak, Z. K. Sprowal, D. N. Polsin, J. R. Rygg, G. W. Collins, D. E. Fratanduono, R. F. Smith, and J. H. Eggert, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Equation of State and Metallization of Methane Shock-Compressed to 400 GPa," G. Tabak, M. A. Millot, S. Hamel, T. Ogawa, P. M. Celliers, D. E. Fratanduono, A. Lazicki, D. C. Swift, S. Brygoo, P. Loubeyre, T. R. Boehly, L. Crandall, B. J. Henderson, M. Zaghoo, S. Ali, R. Kodama, K. Miyanishi, N. Ozaki, T. Sano, R. Jeanloz, D. G. Hicks, G. W. Collins, J. H. Eggert, and J. R. Rygg, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"An Extended X-Ray Absorption Fine Structure Spectroscopy Study of Iron Oxides," D. A. Chin, P. M. Nilson, J. J. Ruby, X. Gong, D. N. Polsin, T. R. Boehly, D. Mastrosimone, D. Guy, J. R. Rygg, G. W. Collins, I. Szumila, J. Buettner, D. Trail, M. Harmand, Y. Ping, F. Coppari, U. Feldman, and J. Seely, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"High-Pressure Structural and Electronic Properties of Ramp-Compressed Sodium," D. N. Polsin, X. Gong, M. F. Huff, L. E. Crandall, G. W. Collins, T. R. Boehly, J. R. Rygg, A. Lazicki, M. Millot, P. M. Celliers, J. H. Eggert, and M. I. McMahon, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Measurement of Spherically Converging Shock Waves on OMEGA," J. J. Ruby, J. R. Rygg, C. J. Forrest, V. Yu. Glebov, D. A. Chin, G. W. Collins, B. Bachmann, J. A. Gaffney, Y. Ping, H. Sio, and N. V. Kabadi, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Precision Measurements of Stopping Power in Shock-Compressed Carbon," J. R. Rygg, A. B. Zylstra, P. Grabowski, M. Millot, M. Gatu Johnson, B. Lahmann, R. D. Petrasso, F. H. Séguin, H. Sio, Y. H. Ding, and S. X. Hu, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Sound Velocity in Shocked Iron and Beryllium to ~1500 GPa," M. Huff, J. R. Rygg,

G. W. Collins, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, L. Crandall, D. E. Fratanduono, M. Millot, R. F. Smith, J. H. Eggert, P. M. Celliers, M. C. Gregor, and C. A. McCoy, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Structure and Optical Properties of Ramp Compressed Silicon Up to 550 GPa," X. Gong, D. N. Polsin, R. Paul, R. Saha, J. R. Rygg, and G. W. Collins, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"X-Ray Diffraction of Shock-Ramped and Shock-Released Platinum," M. K. Ginnane, D. N. Polsin, X. Gong, T. R. Boehly, J. R. Rygg, G. W. Collins, A. Lazicki, R. Kraus, J. H. Eggert, M. Marshall, D. E. Frantanduono, J. P. Davis, C. A. McCoy, and C. Seagle, presented at the 21st Biennial Conference of the APS Topical Group on Shock Compression of Condensed Matter, Portland OR, 16–21 June 2019.

"Nuclear Science at the University of Rochester's Omega Laser Facility," C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. B. Radha, J. R. Rygg, U. Schroeder, O. M. Mannion, Z. L. Mohamed, S. P. Regan, T. C. Sangster, A. Schwemmlein, C. Stoeckl, J. A. Frenje, M. Gatu Johnson, F. H. Seguin, R. D. Petrasso, D. T. Casey, C. Cerjan, D. Dearborn, M. J. Edwards, R. Hatarik, O. S. Jones, O. L. Landen, A. J. Mackinnon, S. Quaglioni, S. Sepke, P. Springer, I. Thomson, R. E. Tipton, A. B. Zylstra, G. Grim, C. Brune, A. Voinov, J. D. Kilkenny, B. Appelbe, A. Crilly, G. Hale, H. W. Herrmann, Y. H. Kim, M. Paris, W. Martin, and B. Augierre, presented at Texas A & M University, College Station, TX, 13 June 2019.

"Anomalous Asymmetry of Unabsorbed Light in OMEGA Implosions," D. H. Edgell, R. Bahr, J. Katz, and D. H. Froula, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Cherenkov Radiation from a Plasma," J. P. Palastro, T. M. Antonsen Jr., L. Nguyen, A. Howard, D. W. Ramsey, T. T. Simpson, R. K. Follett, D. Turnbull, J. Vieira, and D. H. Froula, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Crossed-Beam Energy Transfer Model Validation for Increased Confidence in Proposed Laser Upgrades and Implosion Scaling," D. Turnbull, C. Dorrer, D. Edgell, R. K. Follett, D. H. Froula, A. M. Hansen, J. Katz, B. Kruschwitz, A. L. Milder, J. P. Palastro, A. Colaïtis, T. Chapman, L. Divol, C. Goyon, G. E. Kemp, D. Mariscal, P. Michel, J. D. Moody, B. B. Pollock, J. S. Ross, D. J. Strozzi, E. R. Tubman, and N. C. Woolsey, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Hot-Electron Preheat and Energy Deposition in Direct-Drive Implosion Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, A. R. Christopherson, R. Betti, M. Stoeckl, W. Seka, R. Epstein, R. K. Follett, P. B. Radha, S. P. Regan, D. H. Froula, V. N. Goncharov, J. F. Myatt, M. Hohenberger, B. Bachmann, and P. Michel,

presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Ion-Velocity Structure in Strong Collisional Plasma Shocks," H. G. Rinderknecht, H. S. Park, J. S. Ross, P. A. Amendt, D. P. Higginson, S. C. Wilks, R. K. Follett, D. Haberberger, J. Katz, D. H. Froula, N. M. Hoffman, G. Kagan, B. Keenan, A. Simakov, L. Chacon, and E. Vold, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019 (invited).

"Measurement and Control of Ionization Waves of Arbitrary Velocity," P. Franke, D. Turnbull, J. P. Palastro, J. Katz, I. A. Begishev, R. Boni, J. Bromage, J. L. Shaw, A. Howard, A. L. Milder, A. Davies, S. Bucht, D. Haberberger, A. M. Hansen, and D. H. Froula, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019 (invited).

"Measuring Electron Distribution Functions Driven by Inverse Bremsstrahlung Heating with Collective Thomson Scattering," A. L. Milder, R. Boni, J. Katz, P. Franke, S. T. Ivancic, J. L. Shaw, J. P. Palastro, A. Davies, A. M. Hansen, D. Turnbull, I. A. Begishev, D. H. Froula, M. Sherlock, H. Le, and W. Rozmus, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019 (invited).

"A Microphysics Model to Understand the Solid-to-Plasma Transition of Dielectric Ablator Materials for Direct-Drive Implosions," A. Kar, S. X. Hu, P. B. Radha, and G. Duchateau, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Mitigation of Laser–Plasma Instabilities Using Bandwidth," R. K. Follett, J. G. Shaw, D. H. Edgell, D. H. Froula, C. Dorrer, J. Bromage, E. M. Hill, T. J. Kessler, A. V. Maximov, A. A. Solodov, E. M. Campbell, J. P. Palastro, J. F. Myatt, J. W. Bates, and J. L. Weaver, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019 (invited).

"Modeling of Laser–Plasma Interaction in the Shock-Ignition Regime with *LPSE*: Comparison with Particle-in-Cell Simulations and Experiments," A. Ruocco, A. V. Maximov, J. P. Palastro, R. K. Follett, W. Theobald, A. Casner, D. Batani, J. Trela, A. Colaïtis, G. Duchateau, and V. T. Tikhonchuk, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Modeling Stimulated Raman Scattering and Cross-Beam Energy Transfer in Direct-Drive National Ignition Facility Plasmas." A. V. Maximov, J. G. Shaw, and J. P. Palastro, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Phase Plates in Thomson-Scattering Experiments," A. M. Hansen, D. Turnbull, J. Katz, A. L. Milder, J. P. Palastro, D. Mastrosimone, and D. H. Froula, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Photon Acceleration in a Flying Focus," A. Howard, D. Turnbull, A. S. Davies,

P. Franke, D. H. Froula, and J. P. Palastro, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. K. Follett, S. P. Regan, C Ren, R. Epstein, A. R. Christopherson, R. Betti, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. W. Short, D. H. Froula, P. B. Radha, J. F. Myatt, P. Michel, M. Hohenberger, L. Masse, G. Swadling, J. S. Ross, T. Chapman, J. D. Moody, J. W. Bates, and A. J. Schmitt, presented at the 49th Anomalous Absorption Conference, Telluride, CO, 9–14 June 2019.

"Laser-Direct-Drive Status and Future Plans," C. Thomas, presented at the 28th IEEE Symposium on Fusion Engineering, Ponte Vedra Beach, FL, 2–6 June 2019.

"Ellipsometric Modeling of Serially Bi-Deposited Glancing-Angle–Deposition Coatings," C. Smith, S. MacNally, and J. B. Oliver, presented at Optical Interference Coatings, Santa Ana Pueblo, NM, 2–7 June 2019.

"Glancing-Angle–Deposited Silica Films for Ultraviolet Wave Plates," S. MacNally, C. Smith, J. Spaulding, J. Foster, and J. B. Oliver, presented at Optical Interference Coatings, Santa Ana Pueblo, NM, 2–7 June 2019.

"Large-Aperture Coatings for Fusion-Class Laser Systems," J. B. Oliver, A. L. Rigatti, T. Noll, J. Spaulding, J. Hettrick, V. Gruschow, G. Mitchell, D. Sadowski, C. Smith, and B. Charles, presented at Optical Interference Coatings, Santa Ana Pueblo, NM, 2–7 June 2019.

"Precision Coatings for Large Optics," J. B. Oliver, presented at Optical Interference Coatings, Santa Ana Pueblo, NM, 2–7 June 2019.

"Stress Compensation by Deposition of a Nonuniform Corrective Coating," J. B. Oliver, J. Spaulding, and B. Charles, presented at Optical Interference Coatings, Santa Ana Pueblo, NM, 2–7 June 2019.

"Ultrabroadband THz Radiation Transients Emitted from Ta/NiFe/Pt Nanolayers upon Excitation by Femtosecond Laser Pulses," G. Chen, R. Adam, D. E. Burgler, I. Komissarov, S. Heidtfeld, H. Hardtdegen, M. Mikulics, C. M. Schneider, and R. Sobolewski, presented at Frontiers in Materials Science for the 21st Century Symposium, Rochester, NY, 23 May 2019.

"The Effect of Imprint on OMEGA Cryogenic Target Implosions," J. P. Knauer, presented at the Laser Imprint Workshop, Rochester, NY, 22–24 May 2019.

"The FLUX Project," C. Dorrer, presented at the Laser Imprint Workshop, Rochester, NY, 22–24 May 2019.

"Hydrodynamic Instability Growth and Imprint Experiments at the National Ignition Facility." A. Shvydky, P. B. Radha, M. J. Rosenberg, K. S. Anderson, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, S. P. Regan, T. C. Sangster, M. Hohenberger, J. M. Di Nicola, J. M. Koning, M. M. Marinak, L. Masse, and M. Karasik, presented at the Laser Imprint Workshop, Rochester, NY, 22–24 May 2019.

"Mixing at the Fuel-Ablator Interface in Backlit OMEGA Cryogenic Implosions," T. J. B. Collins, C. Stoeckl, R. Epstein, S. Miller, O. M. Mannion, R. Betti, J. A. Delettrez, W. A. Bittle, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. J. Janezic, J. H. Kelly, T. Z. Kosc, C. Milehamn, D. T. Michel, R. L. McCrory, P. W. McKenty, F. J. Marshall, S. F. B. Morse, P. B. Radha, S. P. Regan, B. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, presented at the Laser Imprint Workshop, Rochester, NY, 22–24 May 2019.

"OHRV Measurements in Direct-Drive Experiments," J. L. Peebles, presented at the Laser Imprint Workshop, Rochester, NY, 22–24 May 2019.

"Review of Imprint Effects on Direct-Drive Inertial Confinement Fusion," S. X. Hu, J. L. Peebles, W. Theobald, S. P. Regan, P. B. Radha, A. Shyvydky, V. N. Goncharov, M. Karasik, J. Oh, A. Velikovich, S. Obenschain, A. Casner, G. Duchateau, B. Chimier, H. Huang, M. Farrell, A. Nikroo, M. Hohenberger, V. A. Smalyuk, M. J. Bonino, D. R. Harding, T. R. Boehly, D. T. Michel, T. J. Kessler, J. P. Knauer, R. Epstein, I. V. Igumenshchev, M. J. Rosenberg, V. T. Tikhonchuk, A. Kar, C. Cao, C. Stoeckl, T. J. B. Collins, J. A. Marozas, K. S. Anderson, T. C. Sangster, R. Betti, D. H. Froula, J. P. Palastro, D. Turnbull, F. J. Marshall, M. Wei, T. Mehlhorn, and E. M. Campbell, presented at the Laser Imprint Workshop, Rochester, NY, 22–24 May 2019.

"Neutron Imaging Systems on OMEGA," S. P. Regan, presented at the CEA-NNSA Joint Diagnostic Meeting, Washington, DC, 21–22 May 2019.

"The Single Line-of-Sight Time-Resolved X-Ray Imager on OMEGA," S. T. Ivancic, W. Theobald, C. Sorce, M. Bedzyck, F. J. Marshall, C. Stoeckl, R. C. Shah, M. Lawrie, S. P. Regan, T. C. Sangster, E. M. Campbell, T. J. Hilsabeck, K. Englehorn, J. D. Kilkenny, T. M. Chung, J. D. Hares, A. K. L. Dymoke-Bradhshaw, P. Bell, J. Celeste, A. C. Carpenter, M. Dayton, D. K. Bradley, M. C. Jackson, E. Hurd, L. Pickworth, S. R. Nagel, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, and Q. Looker, presented at the CEA-NNSA Joint Diagnostic Meeting, Washington, DC, 21–22 May 2019.

"Update on Streak Tube Simulations," R. Boni, presented at the CEA-NNSA Joint Diagnostic Meeting, Washington, DC, 21–22 May 2019.

"National Laser Users' Facility and Basic Science Programs at the Omega Laser Facility," M. S. Wei, presented at Workshop on Opportunities, Challenges, and Best Practices for Basic Plasma Science User Facilities, College Park, MD, 20–21 May 2019.

"Laser Fusion at the University of Rochester's Laboratory for Laser Energetics," R. Epstein, presented at Science Exploration Day, Rochester, NY, 17 May 2019.

"Frontiers in Ultrahigh Intensity and Relativistic Physics Enabled by an Optical Parametric Amplifier Laser (EP-OPAL) Facility," H. G. Rinderknecht, presented at Plasma Physics Town Hall Meeting, Rochester, NY, 16 May 2019.

"Capabilities and Techniques for Diamond Anvil Cells," M. Zaghoo, presented at UBUR Superconductivity Workshop, Buffalo, 10 May 2019.

"Measuring Optically Activated Transient Superconductivity Events at LLE," W. R. Donaldson, presented at UBUR Superconductivity Workshop, Buffalo, 10 May 2019.

"Tutorial: High Pressure Physics," J. R. Rygg, presented at UBUR Superconductivity Workshop, Buffalo, 10 May 2019.

J. L. Shaw, J. P. Palastro, D. Turnbull, T. J. Kessler, A. Davies, P. Franke, A. Howard, L. Nguyen, D. Ramsey, G. W. Jenkins, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, R. K. Follett, D. Haberberger, J. Katz, F. A. Hegmann, D. Purshchke, N. Vafaei-Najafabadi, J. Vieira, and F. Quere, "Flying Focus and Its Application to Laser-Plasma Accelerators," presented at the Laser-Plasma Accelerator Workshop, Split, Croatia, 5–10 May 2019 (invited).

"Designing Grism Stretchers for Idler-Based Optical Parametric Chirped-Pulse–Amplification Systems," S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, presented at CLEO 2019, San Jose, CA, 5–10 May 2019.

"Ultrafast AlGaN UV Photodetectors with Picoseconds Response," Y. Zhao and W. R. Donaldson, presented at CLEO 2019, San Jose, CA, 5–10 May 2019.

V. V. Karasiev and S. X. Hu, "Development of Finite-T Exchange-Correlation Functionals: Improving Reliability for WDM Applications," presented at the 10th International Workshop on Warm Dense Matter, Travemünde, Germany, 5–9 May 2019 (invited).

"Photon Acceleration in a Flying Focus," A. J. Howard, D. Turnbull, A. S. Davies, P. Franke, D. H. Froula, and J. P. Palastro, presented at Design Day, Rochester, NY, 2 May 2019.

"Advancements in Pulse Shaping on OMEGA EP," M. Barczys, R. Brown, D. Canning, A. Consentino, D. Coppenbarger, M. J. Guardalben, E. M. Hill, T. Z. Kosc, B. E. Kruschwitz, R. Russo, M. Spilatro, A. Szydlowski, and L. J. Waxer, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Capabilities and Future Prospects for the Multi-Terawatt (MTW) Laser Facility at LLE,"

J. Bromage, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Comparison of On-Shot, In-Tank, and Equivalent-Target-Plane Measurements of the OMEGA Laser System Focal Spot," K. A. Bauer, L. J. Waxer, M. Heimbueger, J. H. Kelly, J. Kwiatkowski, S. F. B. Morse, D. Nelson, S. Sampat, and D. Weiner, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Gas-Jet System on OMEGA and OMEGA EP," C. Sorce, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Omega Facility OLUG 2019 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Optimization of Cone-In-Shell Targets for an X-Ray Backlighter at the National Ignition Facility," A. Sharma and R. S. Craxton, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Recent Upgrades to the Omega Laser Facility's VISAR and SOP Diagnostics," A. Sorce, J. Kendrick, D. Weiner, T. R. Boehly, J. R. Rygg, M. K. Ginnane, J. Zou, A. Liu, and M. Couch, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Summary of the EP OPAL Workshop," H. G. Rinderknecht, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Using Paladium Hydride to Fill Inertial Confinement Fusion Targets," K. M. Glance, W. T. Shmayda, and M. D. Sharpe, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Wave-Function Amplitude Analysis of the $^{5}$He Resonance in the TT Neutron Spectrum," Z. L. Mohamed, J. P. Knauer, C. J. Forrest, and M. Gatu Johnson, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2019.

"Programmable Beam-Shaping System for High Power Laser Systems," S.-W. Bahk, presented at the RIT Center for Imaging Science Seminar, Rochester, NY, 24 April 2019.

"High-Energy-Density Target Production at LLE," T. Cracium, M. J. Bonino, L. Crandall, B. J. Henderson, J. J. Ruby, J. R. Rygg, J. L. Peebles, M. Huff, X. Gong, D. N. Polsin, D. A. Chin, and M. K. Ginnane, presented at the Target Fabrication Meeting 2019, Annapolis, MD, 23–26 April 2019.

"Manufacture of Targets for Magnetized Liner Inertial Fusion Campaigns on the OMEGA-60 Laser System," D. W. Turner, M. J. Bonino, T. Cracium, J. L. Peebles, J. Streit, and J. Hund, presented at the Target Fabrication Meeting 2019, Annapolis, MD,

23–26 April 2019.

"Methods for Removing Fragile Printed-Foam Structures from Their Substrates," D. Wasilewski, D. R. Harding, J. L. Shaw, Y. Lu, P. Fan, and J. Campbell, presented at the Target Fabrication Meeting 2019, Annapolis, MD, 23–26 April 2019.

"Progress on Filling and Layering DT-Filled Fill-Tube Capsules for OMEGA Experiments," M. D. Wittman, D. R. Harding, N. P. Redden, J. Ulreich, R. Chapman, and L. Carlson, presented at the Target Fabrication Meeting 2019, Annapolis, MD, 23–26 April 2019.

"Properties of Vapor-Deposited and Solution-Processed Targets for Laser-Driven Inertial Confinement Fusion Experiments," M. J. Bonino, D. R. Harding, W. Sweet, M. Schoff, A. Greenwood, N. Satoh, M. Takagi, and A. Nikroo, presented at the Target Fabrication Meeting 2019, Annapolis, MD, 23–26 April 2019.

"Targets for Underdense Plasma Studies at the Laboratory for Laser Energetics," J. L. Shaw, D. Wasilewski, D. R. Harding, Z. Barfield, D. Haberberger, A. M. Hansen, J. Katz, D. Mastrosimone, D. H. Froula, P. Fan, Y. Lu, J. Campbell, J. P. Sauppe, and K. A. Flippo, presented at the Target Fabrication Meeting 2019, Annapolis, MD, 23–26 April 2019.

"Using a Liquid–Liquid Extraction Technique to Reduce the Number and Size of Vacuoles in Polystyrene Films," A. Lighty and D. R. Harding, presented at the Target Fabrication Meeting 2019, Annapolis, MD, 23–26 April 2019.

"Measurement of Palladium Hydride and Palladium Deuteride Isotherms Between 130 and 393 K," M. D. Sharpe, K. Glance, and W. T. Shmayda, presented at the 12th International Conference on Tritium Science and Technology, Busan, Korea, 22–26 April 2019.

"Thin-Alumina Film as a Tritium Adsorption Inhibitor for Stainless-Steel 316," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at the 12th International Conference on Tritium Science and Technology, Busan, Korea, 22–26 April 2019.

"Tritium Activities at the University of Rochester's Laboratory for Laser Energetics," W. T. Shmayda, M. D. Sharpe, C. Fagan, M. D. Wittman, R. F. Earley, and N. P. Redden, presented at the 12th International Conference on Tritium Science and Technology, Busan, Korea, 22–26 April 2019.

"Extreme Matters: Pressure to Explore New Worlds and Exotic Solids," G. W. Collins, presented at the Materials Science and Engineering Colloquium, New York, NY, 19 April 2019.

"Neutron-Induced Breakup of Deuterium at 14 MeV," C. J. Forrest, J. P. Knauer, E. M. Campbell, G. W. Collins, V. Yu. Glebov, O. M. Mannion, Z. Mohamed, P. B. Radha,

S. P. Regan, T. C. Sangster, C. Stoeckl, A. Deltuva, and W. U. Schröder, presented at the APS April Meeting 2019, Denver, CO, 13–16 April 2019.

"Using the OMEGA EP Laser for Nuclear Experiments at LLE," A. Schwemmlein, W. U. Schröder, C. Stoeckl, C. J. Forrest, V. Yu. Glebov, S. P. Regan, T. C. Sangster, W. Theobald, presented at the APS April Meeting 2019, Denver, CO, 13–16 April 2019.

"Laser-Direct-Drive Status and Future Plans," E. M. Campbell, presented at Washington State University, Pullman, WA, 11 April 2019.

"Fusion: Making a Star on Earth and the Quest for the Ultimate Energy Source to Power the Planet," E. M. Campbell, presented at Torch Club, Rochester, NY, 9 April 2019.

"Acoustic Trapping and Perturbation Amplification in Nested Rarefaction Waves," V. N. Goncharov, presented at the 15th Direct-Drive and Fast-Ignition Workshop, Rome, Italy, 8–10 April 2019.

"Expanding the Inertial Confinement Fusion Design Space with Broadband Mitigation of Laser-Plasma Instabilities," J. P. Palastro, R. K. Follett, D. Turnbull, C. Dorrer, E. M. Hill, L. Nguyen, A. S. Davies, A. M. Hansen, R. J. Henchen, A. Milder, A. A. Solodov, A. Shvydky, J. Bromage, V. N. Goncharov, and D. H. Froula, J. Bates, J. L. Weaver, S. Obenschain, and A. Colaïtis, presented at the 15th Direct-Drive and Fast-Ignition Workshop, Rome, Italy, 8–10 April 2019.

"Multidimensional Effects on Hot-Spot Formation in OMEGA DT Cryogenic Implosions," S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Betti, E. M. Campbell, K. A. Bauer, T. R. Boehly, M. J. Bonino, D. Cao, A. R. Christopherson, G. W. Collins, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, R. K. Follett, J. A. Frenje, D. H. Froula, V. Yu. Glebov, V. Gopalaswamy, D. R. Harding, S. X. Hu, I. V. Igumenshchev, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, M. Karasik, T. J. Kessler, J. P. Knauer, T. Z. Kosc, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, Z. Mohamed, S. F. B. Morse, P. M. Nilson, J. P. Palastro, R. D. Petrasso, D. Patel, J. L. Peebles, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, W. Seka, R. C. Shah, J. R. Rygg, J. G. Shaw, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, K. M. Woo, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, M. Karasik, S. P. Obenschain, and A. J. Schmitt, presented at the 15th Direct-Drive and Fast-Ignition Workshop, Rome, Italy, 8–10 April 2019.

"Progress Toward Demonstrating Hydro-Equivalent Ignition with Direct-Drive Inertial Confinement Fusion," R. Betti, V. Gopalaswamy, J. P. Knauer, N. Luciani, D. Patel, K. M. Woo, A. Bose, I. V. Igumenshchev, E. M. Campbell, K. S. Anderson, K. A. Bauer, M. J. Bonino, D. Cao, A. R. Christopherson, G. W. Collins, T. J. B. Collins, J. R. Davies, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, O. M. Mannion, A. V. Maximov, F. J. Marshall, D. T. Michel, S. Miller, S. F. B.

Morse, J. P. Palastro, J. L. Peebles, P. B. Radha, S. P. Regan, S. Sampat, T. C. Sangster, A. B. Sefkow, W. Seka, R. C. Shah, W. T. Shmayda, A. Shvydky, C. Stoeckl, A. A. Solodov, W. Theobald, and J. D. Zuegel, presented at the 15th Direct-Drive and Fast-Ignition Workshop, Rome, Italy, 8–10 April 2019.

"Laser-Direct-Drive Status and Future Plans," E. M. Campbell, presented at MIT, Cambridge, MA, 5 April 2019.

"Picosecond UV Photodiodes," W. R. Donaldson and Y. Zhao, presented at CEIS 2019, Rochester, NY, 4 April 2019.

"Superconducting Single-Photon Detectors as Smart Sensors," A. Stenson, G. Chen, Y. Akbas, I. Komissarov, R. Sobolewski, A. Jafari-Salim, and O. Mukhanov, presented at CEIS 2019, Rochester, NY, 4 April 2019.

"Extreme Matters: Pressure to Explore New Worlds and Exotic Solids," G. W. Collins, J. R. Rygg, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, X. Gong, L. Crandall, R. Saha, J. J. Ruby, G. Tabak, M. Huff, Z. K. Sprowal, D. A. Chin, M. K. Ginnane, P. M. Celliers, J. H. Eggert, A. Lazicki, R. F. Smith, R. Hemley, F. Coppari, B. Bachmann, J. Gaffney, D. E. Fratanduono, D. G. Hicks, Y. Ping, D. Swift, D. G. Braun, S. Hamel, M. Millot, M. Gorman, R. Briggs, S. Ali, R. Kraus, M. McMahon, P. Loubeyre, S. Brygoo, R. Jeanloz, R. Falcone, F. N. Beg, C. Bolme, A. Gleason, S. H. Glenzer, H. Lee, T. Duffy, J. Wang, J. Wark, and G. Gregori, presented at the 2019 Mach Conference, Annapolis, MD, 3–5 April 2019.

"Laser Technology Development for Ultra-Intense Optical Parametric Chirped-Pulse Amplification," J. Bromage, A. Agliata, S.-W. Bahk, M. Bedzyk, I. A. Begishev, W. A. Bittle, T. Buczek, J. Bunkenburg, D. Canning, A. Consentino, D. Coppenbarger, R. Cuffney, C. Dorrer, C. Feng, D. H. Froula, G. Gates, M. J. Guardalben, D. Haberberger, S. Hadrich, C. Hall, B. N. Hoffman, R. K. Jungquist, T. J. Kessler, E. Kowaluk, B. E. Kruschwitz, T. Lewis, J. Magoon, D. D. Meyerhofer, C. Mileham, M. Millecchia, S. F. B. Morse, P. M. Nilson, J. B. Oliver, R. G. Peck, A. L. Rigatti, H. Rinderknecht, R. G. Roides, M. H. Romanofsky, J. Rothhardt, E. M. Schiesser, K. Shaughnessy, M. J. Shoup III, C. Smith, M. Spilatro, C. Stoeckl, R. Taylor, B. Wager, L. J. Waxer, B. Webb, D. Weiner, and J. D. Zuegel, presented at Optics and Optoelectronics 2019, Prague, Czech Republic, 1–4 April 2019.

"High-Pressure Structural and Electronic Properties of Ramp-Compressed Sodium," D. N. Polsin, X. Gong, M. F. Huff, L. E. Crandall, G. W. Collins, T. R. Boehly, J. R. Rygg, A. Lazicki, M. Millot, P. M. Celliers, J. H. Eggert, and M. I. McMahon, presented at the International Conference on High Energy Density Science, Oxford, UK, 31 March–5 April 2019.

"Recent Advances in Direct-Drive Laser Fusion," R. Betti, presented at the International Conference on High Energy Density Science, Oxford, UK, 31 March–5 April 2019.

"Warming Up Density Functional Theory (DFT) for High-Energy-Density Plasmas," S. X. Hu, Y. H. Ding, V. V. Karasiev, R. Paul, M. Ghosh, J. Hinz, P. M. Nilson, T. R. Boehly, P. B. Radha, V. N. Goncharov, S. Skupsky, J. R. Rygg, G. W. Collins, S. P. Regan, E. M. Campbell, L. A. Collins, J. D. Kress, A. J. White, O. Certik, and B. Militzer, presented at the International Conference on High Energy Density Science, Oxford, UK, 31 March–5 April 2019.

"Reducing Releases from Tritium Facilities," W. T. Shmayda, C. Fagan, and R. C. Shmayda, presented at the First Tritium School, Ljubljana, Slovenia, 25–28 March 2019.

"Broadband Reflectivity Diagnostic Development for Dynamic Compression Experiments on OMEGA EP," B. J. Henderson, M. Zaghoo, X. Gong, D. N. Polsin, J. R. Rygg, T. R. Boehly, G. W. Collins, S. Ali, P. M. Celliers, A. E. Lazicki, M. Gorman, M. Millot, J. H. Eggert, and M. McMahon, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 17–23 March 2019.

"Shock Physicists: Today's Explorers of the Universe," G. W. Collins, J. R. Rygg, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, X. Gong, L. E. Crandall, R. Saha, J. J. Ruby, G. Tabak, M. F. Huff, Z. K. Sprowal, D. A. Chin, M. K. Ginnane, P. M. Celliers, J. H. Eggert, A. Lazicki, R. F. Smith, R. Hemley, F. Coppari, B. Bachman, J. Gaffney, D. E. Fratanduono, D. G. Hicks, Y. Ping, D. Swift, D. G. Braun, S. Hamel, M. Millot, M. Gorman, R. Briggs, S. Ali, R. Kraus, P. Loubeyre, S. Brygoo, R. Jeanloz, R. Falcone, M. McMahon, F. N. Beg, C. Bolme, A. Gleason, S. H. Glenzer, H. Lee, T. Duffy, J. Wang, J. Wark, and G. Gregori, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 17–23 March 2019.

"X-Ray Diffraction in the Terapascal Regime," J. R. Rygg, D. N. Polsin, X. Gong, T. R. Boehly, G. W. Collins, S. P. Regan, C. Sorce, J. H. Eggert, R. Smith, A. Lazicki, M. Ahmed, A. Arsenlis, M. A. Barrios, J. Bernier, K. Blobaum, D. G. Braun, R. Briggs, P. M. Celliers, A. Cook, F. Coppari, D. E. Fratanduono, M. Gorman, B. Heidl, M. Hohenberger, D. H. Kalantar, S. Khan, R. Kraus, J. McNaney, D. Swift, J. Ward, C. Wehrenberg, A. Higginbothom, M. Suggit, J. Wark, J. Wang, T. Duffy, J. Wicks, and M. McMahon, presented at Matter in Extreme Conditions from Material Science to Planetary Physics, Montgenevre, France, 17–23 March 2019.

"Laser Focus on Planets: Exploring Planets and Stars Through High Energy Density Science," G. W. Collins, J. R. Rygg, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, X. Gong, L. Crandall, R. Saha, J. J. Ruby, G. Tabak, M. F. Huff, Z. K. Sprowal, D. A. Chin, M. K. Ginnane, P. M. Celliers, J. H. Eggert, A. Lazicki, R. F. Smith, R. Hemley, F. Coppari, B. Bachmann, J. Gaffney, D. E. Fratanduono, D. G. Hicks, Y. Ping, D. Swift, D. G. Braun, S. Hamel, M. Millot, M. Gorman, R. Briggs, S. Ali, R. Kraus, P. Loubeyre, S. Brygoo, R. Jeanloz, R. Falcone, M. McMahon, F. N. Beg, C. Bolme, A. Gleason, S. Glenzer, H. Lee, T. Duffy, J. Wang, J. Wark, and G. Gregori, presented at the APS March Meeting, Boston, MA, 4–8 March 2019.

"Extreme Matters: A Laboratory Exploration of Planets, Stars, and Quantum Matter,"

G. W. Collins, presented at Phelps Colloquium, Rochester, NY, 27 February 2019.

"LLE Priorities FY 2020–FY 2021," E. M. Campbell, presented at the ICF Executives Meeting, Albuquerque, NM, 21–22 February 2019.

"Magnetizing 60-Beam Spherical Implosions on OMEGA," J. L. Peebles, J. R. Davies, R. Moshier, M. Bradley, T. Nguyen, G. Weselak, G. Fiksel, R. Shapovalov, R. Spielman, G. Brent, D. W. Jacobs-Perkins, A. Bose, M. Gatu Johnson, C. K. Li, J. A. Frenje, R. D. Petrasso, and R. Betti, presented at the 2019 Stewardship Science Academic Programs Symposium, Albuquerque, NM, 19–20 February 2019.

"Deorbitalized Meta-GGA with the Long-Range van der Waals Exchange-Correlation Functional Calculations of the Insulator–Metal Transition of Hydrogen," J. Hinz, V. V. Karasiev, S. X. Hu, M. Zaghoo, and D. Mejia-Rodriguez, presented at the 59th Sanibel Symposium, St. Simons Island GA, 17–22 February 2019.

"Exchange-Correlation Thermal Effects: Softening the Deuterium Hugoniot and Thermophysical Properties," V. V. Karasiev, S. X. Hu, M. Zaghoo, T. R. Boehly, S. B. Trickey, and J. W. Dufty, presented at the 59th Sanibel Symposium, St. Simons Island GA, 17–22 February 2019.

"High-Pressure Phases and Spectral Properties of Silicon," R. Paul, V. V. Karasiev, and S. X. Hu, presented at the 59th Sanibel Symposium, St. Simons Island GA, 17–22 February 2019.

"Fusion: Making a Star on Earth and the Quest for the Ultimate Energy Source to Power the Planet," E. M. Campbell, presented at the ASME Student Banquet, Rochester, NY, 15 February 2019.

"LaserNetUS-OMEGA EP Laser System and Experimental Capability," M. S. Wei, presented at LaserNetUS, Virtual Meeting, 15 February 2019.

"Fusion: Making a Star on Earth and the Quest for the Ultimate Energy Source to Power the Planet," E. M. Campbell, presented at SUNY Geneseo Seminar, Geneseo, NY, 14 February 2019.

"X-Ray Spectroscopy and Inertial Confinement Fusion," S. P. Regan, R. Epstein, M. Bedzek, R. Betti, T. R. Boehly, M. Bonino, N. Chartier, G. W. Collins, J. A. Delettrez, D. H. Froula, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, D. R. Harding, J. P. Knauer, M. Lawrie, F. J. Marshall, D. T. Michel, P. B. Radha, M. J. Rosenberg, J. R. Rygg, R. Saha, R. C. Shah, M. J. Shoup III, C. Stoeckl, T. C. Sangster, W. Theobald, E. M. Campbell, H. Sawada, R. C. Mancini, K. Falk, E. Rowe, J. Topp-Mugglestone, P. Kozlowski, G. Gregori, J. Wark, J. A. Frenje, M. Gatu Johnson, N. Kabadi, C. K. Li, H. Sio, R. D. Petrasso, P. Keiter, P. X. Belencourt, R. P. Drake, N. Woolsey, I. E. Golovkin, J. J. MacFarlane, S. H. Glenzer, B. A. Hammel, L. J. Suter, S. Ayers, M. A. Barrios, P. M. Bell, D. K. Bradley, M. J. Edwards, K. B. Fournier, S. W.

Haan, O. A. Hurricane, C. A. Iglesias, N. Izumi, O. L. Landen, D. Larson, A. Nikroo, M. Schneider, H. A. Scott, T. Ma, P. K. Patel, D. Thorn, B. G. Wilson, D. A. Haynes, D. D. Meyerhofer, H. Huang, J. Jaquez, J. D. Kilkenny, L. Gao, K. Hill, B. Kraus, P. Efthimion, Y. Lu, X. Huang, and P. Fan, presented at the University of Nebraska, Lincoln, NE, 13 February 2019.

"Comparison of On-Shot, In-Tank, and Equivalent-Target-Plane Measurements of the OMEGA Laser System Focal Spot," K. A. Bauer, M. Heimbueger, S. Sampat, L. J. Waxer, E. C. Cost, J. H. Kelly, V. Kobilansky, J. Kwiatkowski, S. F. B. Morse, D. Nelson, D. Weiner, G. Weselak, and J. Zou, presented at LASE 2019, San Francisco, CA, 2–7 February 2019

"Co-Timing UV and IR Laser Pulses on the OMEGA EP Laser System," W. R. Donaldson and A. Consentino, presented at LASE 2019, San Francisco, CA, 2–7 February 2019.

"In-Tank, On-Shot Characterization of the OMEGA Laser System Focal Spot," L. J. Waxer, K. A. Bauer, E. C. Cost, M. Heimbueger, J. H. Kelly, V. Kobilansky, S. F. B. Morse, D. Nelson, R. Peck, R. Rinefierd, S. Sampat, M. J. Shoup III, D. Weiner, G. Weselak, and J. Zou, presented at LASE 2019, San Francisco, CA, 2–7 February 2019.

"Tunable UV Upgrade on OMEGA EP," B. E. Kruschwitz, J. Kwiatkowski, C. Dorrer, M. Barczys, A. Consentino, D. H. Froula, M. J. Guardalben, E. M. Hill, D. Nelson, M. J. Shoup III, D. Turnbull, L. J. Waxer, and D. Weiner, presented at LASE 2019, San Francisco, CA, 2–7 February 2019.

"Power Balancing a Multibeam Laser," S. Sampat, T. Z. Kosc, K. A. Bauer, R. D. Dean, W. R. Donaldson, J. Kwiatkowski, R. Moshier, A. L. Rigatti, M. H. Romanofsky, L. J. Waxer, and J. H. Kelly, presented at LASE 2019, San Francisco, CA, 2–7 February 2019.

"High-Efficiency, Large-Aperture Fifth-Harmonic–Generation of 211-nm Pulses in Ammonium Dihydrogen Phosphate Crystals for Fusion Diagnostics," I. A. Begishev, M. H. Romanofsky, S. Carey, R. Chapman, G. Brent, M. J. Shoup III, J. D. Zuegel, and J. Bromage, presented at Photonics West, San Francisco, CA, 2–7 February 2019.

"Microscopy with Ultraviolet Surface Excitation (MUSE) Enables Translation of Optical Biopsy Principles to Enhance Life Science Education," K. Kopp and S. G. Demos, presented at Photonics West, San Francisco, CA, 2–7 February 2019.

"Raman Scattering Cross-Section Measurements Using KDP Polished Crystal Spheres to Understand Transverse Stimulated Raman Scattering," T. Z. Kosc, T. J. Kessler, H. Huang, R. A. Negres, and S. G. Demos, presented at Photonics West, San Francisco, CA, 2–7 February 2019.

"Fusion: Making a Star on Earth and the Quest for the Ultimate Energy Source to Power the Planet," E. M. Campbell, presented at the Cornell University Seminar, Ithaca, NY,

31 January 2019.

"Forging a New Frontier of HED Science Through Japan-U.S. Collaborations," G. W. Collins, presented at the Japan-U.S. Symposium, Washington, DC, 23–24 January 2019

"Japan–U.S. Collaborations—Future Collaborations and the Direction of LLE Laser Science and Plasma Physics Research," D. H. Froula, presented at the Japan-U.S. Symposium, Washington, DC, 23–24 January 2019

"LaserNetUS Facility Readiness—Omega Laser Facility," M. Wei, presented at the LaserNetUS PI Meeting, Rockville, MD, 16 January 2019.

**2018**

"Fusion Research at LLE: Direct Drive and Magnetized Targets," R. Betti, presented at the Joint U.S./Israel Workshop on High-Energy-Density Physics, Tel Aviv, Israel, 10–12 December 2018.

"High-Energy-Density Physics Research at LLE," T. R. Boehly, presented at the Joint U.S./Israel Workshop on High-Energy-Density Physics, Tel Aviv, Israel, 10–12 December 2018.

"Laser-Plasma Instabilities and R&D Plans for Fourth-Generation ICF Lasers," J. D. Zuegel, C. Dorrer, E. M. Hill, R. K. Follett, A. A. Solodov, J. P. Palastro, D. Turnbull, D. H. Edgell, J. Bromage, T. J. Kessler, J. G. Shaw, A. M. Hansen, A. L. Milder, J. Katz, R. Boni, V. N. Goncharov, E. M. Campbell, P. Michel, D. Strozzi, M. Glensky, K. Peterson, J. W. Bates, A. Schmitt, J. L. Weaver, J. F. Myatt, presented at the Joint U.S./Israel Workshop on High-Energy-Density Physics, Tel Aviv, Israel, 10–12 December 2018.

"NIF-An Unexpected Journey, Lessons Learned to Secure 'Projects of Scale' and the Future of ICF Research," E. M. Campbell, presented at the Joint U.S./Israel Workshop on High-Energy-Density Physics, Tel Aviv, Israel, 10–12 December 2018.

"Overview of the Laboratory for Laser Energetics," T. C. Sangster, presented at the Joint U.S./Israel Workshop on High-Energy-Density Physics, Tel Aviv, Israel, 10–12 December 2018.

"Plasma Physics and Broadband Lasers at LLE—A Path to an Expanded ICF Design Space," D. H. Froula, presented at the Fusion Power Associates 39th Annual Meeting and Symposium, Washington, DC, 4–5 December 2018.

"Status of Laser-Direct-Drive Fusion in the U.S.," T. C. Sangster, presented at the Institute of Applied Physics and Computational Mathematics, Beijing, China, 29–30 November 2018.

"Distribution of Tritium in the Near Surface of Stainless-Steel 316," M. Sharpe and C. Fagan, W. T. Shmayda, presented at Technology of Fusion Energy 2018, Orlando, FL, 11–15 November 2018.

"Pulsed-Power and Laser-Driven Magnetized Liner Inertial Fusion," J. L. Peebles, J. R. Davies, D. H. Barnak, R. Betti, V. Yu. Glebov, E. C. Hansen, J. P. Knauer, K. J. Peterson, and D. B. Sinars, presented at Technology of Fusion Energy 2018, Orlando, FL, 11–15 November 2018.

"Tritium Extraction from Water," W. T. Shmayda, C. R. Shmayda, and J. Torres, presented at Technology of Fusion Energy 2018, Orlando, FL, 11–15 November 2018.

"Tritium Retention in Hexavalent Chromate-Conversion–Coated Aluminum Alloy," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at Technology of Fusion Energy 2018, Orlando, FL, 11–15 November 2018.

"Status of FY18 OLUG Findings and Recommendations," M. S. Wei, presented at the APS DPP OLUG Update, Portland, OR, 6 November 2018.

"*Ab Initio* Studies on Stopping Power of Warm Dense Matter with Time-Dependent Orbital-Free Density Functional Theory," Y. H. Ding, S. X. Hu, A. J. White, O. Certik, and L. A. Collins, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Atomic and Electronic Structure of Warm Dense Silicon," R. Saha, J. Topp-Mugglestone, G. Gregori, T. White, S. P. Regan, G. W. Collins, and J. R. Rygg, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Breakdown of Fermi Degeneracy in the Simplest Liquid Metal," M. Zaghoo, G. W. Collins, T. R. Boehly, J. R. Rygg, V. V. Karasiev, S. X. Hu, and P. M. Celliers, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018 (invited).

"Broadband Reflectivity Diagnostic Development for Dynamic Compression Experiments on OMEGA EP," B. J. Henderson, T. R. Boehly, M. Zaghoo, J. R. Rygg, D. N. Polsin, X. Gong, L. Crandall, M. Huff, M. K. Ginnane, G. W. Collins, S. Ali, and P. M. Celliers, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Burn-Rate Measurements from the High-Performance Cryogenic Implosion Campaign on OMEGA," J. P. Knauer, C. Stoeckl, R. Betti, V. Gopalaswamy, K. S. Anderson, D. Cao, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. A. Marozas, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, and R. C. Shah, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Characterizing Magnetic and Electric Fields from Laser-Driven Coils Using Axial Proton Probing," J. L. Peebles, J. R. Davies, D. H. Barnak, A. B. Sefkow, P. A. Gourdain, R. Betti, and A. V. Arefiev, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Cherenkov Radiation from a Plasma," J. P. Palastro, T. M. Antonsen, Jr., L. Nguyen, A. Colaïtis, R. K. Follett, D. Turnbull, J. Vieira, and D. H. Froula, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Cross-Beam Energy Transfer Platform Development on OMEGA," A. M. Hansen, D. Turnbull, D. Haberberger, J. Katz, D. Mastrosimone, A. Colaïtis, A. B. Sefkow, R. K. Follett, J. P. Palastro, and D. H. Froula, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Cryogenic Target Performance and Fuel-Ablator Perturbation Growth," T. J. B. Collins, C. Stoeckl, R. Epstein, R. Betti, J. A. Delettrez, W. Bittle, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, C. Mileham, D. T. Michel, R. L. McCrory, P. W. McKenty, F. J. Marshall, S. F. B. Morse, P. B. Radha, S. P. Regan, B. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Deceleration-Phase Rayleigh–Taylor Growth Effects on the Performance of Direct-Drive Implosions," S. C. Miller, J. P. Knauer, C. J. Forrest, V. Yu. Glebov, O. M. Mannion, W. T. Shmayda, T. J. B. Collins, J. A. Marozas, K. S. Anderson, P. B. Radha, and V. N. Goncharov, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Density Measurements of the Inner Shell Release," D. Haberberger, A. Shvydky, J. P. Knauer, S. X. Hu, V. N. Goncharov, S. T. Ivancic, and D. H. Froula, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Density Profile Measurements on OMEGA using the CBET Beamlets Diagnostic," D. H. Edgell, R. K. Follett, J. Katz, J. P. Palastro, D. Turnbull, and D. H. Froula, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Dependence of Hot-Spot Mix in DT Cryogenic Implosions on the Design Adiabat," S. P. Regan, V. N. Goncharov, D. Cao, R. Epstein, R. Betti, M. J. Bonino, T. J. B. Collins, E. M. Campbell, C. J. Forrest, V. Yu. Glebov, D. R. Harding, J. P. Knauer, J. A. Marozas, F. J. Marshall, P. B. Radha, T. C. Sangster, R. C. Shah, C. Stoeckl, R. W. Luo, M. E. Schoff, and M. Farrell, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Direct-Drive-Ignition Designs with Gradient-Density Double Shells," S. X. Hu, R. Epstein, V. N. Goncharov, and E. M. Campbell, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Direct Measurements of Nonlocal Heat Flux by Thomson Scattering," R. J. Henchen, J. Katz, D. Cao, J. P. Palastro, D. H. Froula, M. Sherlock, and W. Rozmus, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018 (invited).

"DT Yield and Ion Temperature Measurement with a Cherenkov Neutron Time-of-Flight Detector on OMEGA," V. Yu. Glebov, C. J. Forrest, J. P. Knauer, O. M. Mannion, S. P. Regan, T. C. Sangster, C. Stoeckl, M. J. Eckart, G. P. Grim, A. S. Moore, and D. J. Schlossberg, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Equation-of-State Measurements of Precompressed $CO_2$," L. Crandall, J. R. Rygg, G. W. Collins, T. R. Boehly, M. Zaghoo, P. M. Celliers, D. E. Fratanduono, M. C. Gregor, A. Jenei, M. Millot, J. H. Eggert, and D. Spaulding, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Equation of State and Metallization of Methane Shock-Compressed to 400 GPa," G. Tabak, M. Millot, T. R. Boehly, L. Crandall, B. J. Henderson, M. Zaghoo, S. Ali, P. M. Celliers, D. E. Fratanduono, S. Hamel, A. Lazicki, D. Swift, P. Loubeyre, R. Kodama, K. Miyanishi, T. Ogawa, N. Ozaki, T. Sano, R. Jeanloz, D. G. Hicks, G. W. Collins, J. H. Eggert, and J. R. Rygg, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Evaluating the Residual Kinetic Energy in Direct-Drive Cryogenic Implosions on OMEGA," C. J. Forrest, K. S. Anderson, V. Yu. Glebov, V. Gopalaswamy, V. N. Goncharov, J. P. Knauer, O. M. Mannion, P. B. Radha, S. P. Regan, T. C. Sangster, R. C. Shah, C. Stoeckl, J. A. Frenje, and M. Gatu Johnson, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Flying Focus: Spatial and Temporal Control of Intensity for Laser Based Application," D. H. Froula, J. P. Palastro, D. Turnbull, T. J. Kessler, A. Davies, P. Franke, A. Howard, L. Nguyen, D. Ramsey, G. W. Jenkins, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, R. K. Follett, D. Haberberger, J. Katz, J. L. Shaw, F. A. Hegmann, D. Purschke, N. Vafaei-Najafabadi, J. Vieira, and F. Quéré, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018 (invited).

"High-Pressure Phase Diagram of Silicon," R. Paul, S. X. Hu, and V. V. Karasiev, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"High-Resolving-Power, Streaked X-Ray Spectroscopy on the OMEGA EP Laser System," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, C. Taylor, R. K.

Jungquist, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. B. Sefkow, A. A. Solodov, W. Theobald, C. Stoeckl, S. X. Hu, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, I. E. Golovkin, and D. D. Meyerhofer, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Hot-Electron Generation and Preheat in Direct-Drive Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, W. Seka, R. Epstein, R. W. Short, R. K. Follett, A. R. Christopherson, R. Betti, P. B. Radha, S. P. Regan, D. H. Froula, V. N. Goncharov, J. F. Myatt, P. Michel, M. Hohenberger, T. Chapman, J. D. Moody, J. W. Bates, and A. J. Schmitt, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"The Hybrid Target Approach: A Promising Path Forward to Mitigate Laser Imprint in Direct-Drive Inertial Confinement Fusion," W. Theobald, R. Betti, A. Bose, S. X. Hu, E. M. Campbell, S. P. Regan, C. A. McCoy, A. Casner, L. Ceurvorst, and M. Karasik, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Impact of Three-Dimensional Hot-Spot Flow Asymmetry on Ion-Temperature Measurements in Inertial Confinement Fusion Experiments," K. M. Woo, R. Betti, O. M. Mannion, D. Patel, V. N. Goncharov, K. S. Anderson, P. B. Radha, J. P. Knauer, V. Gopalaswamy, A. R. Christopherson, E. M. Campbell, H. Aluie, D. Shvarts, J. Sanz, and A. Bose, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Implementation of the Low-Noise, 3-D Ray-Trace Inverse-Projection Method in the Radiation–Hydrodynamics Code *HYDRA*," J. A. Marozas, G. D. Kerbel, M. M. Marinak, and S. Sepke, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Improvements to the VISAR and Streaked Optical Pyrometer at the Omega Laser Facility," M. K. Ginnane, A. Sorce, J. D. Kendrick, R. Boni, B. Saltzman, D. Weiner, M. Zaghoo, D. N. Polsin, B. J. Henderson, J. Zou, M. Couch, C. M. Rogoff, M. C. Gregor, T. R. Boehly, J. R. Rygg, and G. W. Collins, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Inferring Shell Nonuniformity in OMEGA Implosions by Self-Emission Radiography," R. Epstein, C. Stoeckl, P. B. Radha, T. J. B. Collins, P. W. McKenty, D. Cao, R. C. Shah, D. Cliche, and R. C. Mancini, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"*In Situ* Measurements of Direct-Drive Illumination Uniformity on OMEGA," F. J. Marshall, V. N. Goncharov, J. H. Kelly, T. Z. Kosc, and A. Shvydky, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Integrated Analysis of Nuclear Measuremenrts from the Target-Offset Campaign on OMEGA," O. M. Mannion, K. S. Anderson, C. J. Forrest, V. Yu. Glebov, J. P. Knauer, Z. L. Mohamed, S. P. Regan, T. C. Sangster, R. C. Shah, C. Stoeckl, and M. Gatu Johnson, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Interpreting EXAFS Spectra: Toward Ramp-Compression Studies of Iron Oxide (FeO)," D. A. Chin, P. M. Nilson, G. W. Collins, T. R. Boehly, J. R. Rygg, F. Coppari, Y. Ping, D. Trail, I. Szumila, and M. Harmand, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Investigating Small Scale Mix in Direct-Drive Cryogenic DT Implosions with Radiography on OMEGA," C. Stoeckl, T. J. B. Collins, R. Epstein, V. N. Goncharov, R. K. Jungquist, C. Mileham, P. B. Radha, S. P. Regan, T. C. Sangster, and W. Theobald, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Ionization Waves of Arbitrary Velocity," P. Franke, D. Turnbull, J. P. Palastro, J. Katz, I. A. Begishev, R. Boni, J. Bromage, A. L. Milder, J. L. Shaw, and D. H. Froula, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Ionization Waves of Arbitrary Velocity," D. Turnbull, P. Franke, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, A. Davies, D. Haberberger, J. Katz, T. J. Kessler, A. L. Milder, J. P. Palastro, J. L. Shaw, D. H. Froula, M. Edwards, Q. Jia, K. Qu, N. Fisch, N. Vafaei-Najabadi, J. Vieira, and F. Quéré, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Laser-Driven Magnetized Liner Inertial Fusion on OMEGA," J. R. Davies, D. H. Barnak, R. Betti, P.-Y. Chang, V. Yu. Glebov, E. C. Hansen, J. P. Knauer, J. L. Peebles, A. B. Sefkow, K. J. Peterson, and D. B. Sinars, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018 (invited).

"Laser-Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, R. K. Follett, W. Seka, S. P. Regan, R. Epstein, A. R. Christopherson, R. Betti, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. W. Short, D. Turnbull, D. H. Froula, P. B. Radha, J. F. Myatt, P. Michel, M. Hohenberger, L. Masse, G. Swadling, J. S. Ross, T. Chapman, J. D. Moody, J. W. Bates, and A. J. Schmitt, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Laser Wakefield Acceleration Platform for OMEGA EP," J. L. Shaw, Z. Barfield, D. Haberberger, A. M. Hansen, J. Katz, D. Mastrosimone, D. H. Froula, F. Albert, P. M. King, N. Lemos, J. Williams, P. Fan, and Y. Lu, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Matter at Extreme Energy Density: Exotic Solids to Inertial Fusion," G. W. Collins, J. R. Rygg, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, X. Gong, L. Crandall, R. Saha, J. J. Ruby, G. Tabak, M. Huff, Z. Sprowal, A. Chin, M. K. Ginnane, P. M. Celliers, J. H. Eggert, A. Lazicki, R. F. Smith, R. Hemley, F. Coppari, B. Bachman, J. Gaffney, D. E. Fratanduono, D. G. Hicks, Y. Ping, D. Swift, D. G. Braun, S. Hamel, M. Milllot, M. Gorman, R. Briggs, S. Ali, R. Kraus, M. McMahon, S. Brygoo, R. Jeanloz, R. Falcone, F. N. Beg, C. Bolme, A. Gleason, S. H. Glenzer, H. J. Lee, T. Duffy, J. Wang, J. Wark, and G. Gregori, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Measurement of the Langdon Effect in Laser-Produced Plasma Using Collective Thomson Scattering," A. L. Milder, P. Franke, J. Katz, J. P. Palastro, S. T. Ivancic, J. L. Shaw, A. S. Davies, I. A. Begishev, R. H. Cuffney, M. Spilatro, and D. H. Froula, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Measurement of Plasma Conditions at Shock Collapse on OMEGA," J. J. Ruby, J. R. Rygg, C. J. Forrest, V. Yu. Glebov, D. A. Chin, G. W. Collins, B. Bachmann, J. A. Gaffney, Y. Ping, H. Sio, and N. V. Kabadi, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Measurements of Sound Speed in Iron Shock-Compressed to ~1 TPa," M. Huff, J. R. Rygg, G. W. Collins, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, L. Crandall, D. E. Fratanduono, M. Millot, R. F. Smith, J. H. Eggert, P. M. Celliers, M. C. Gregor, and C. A. McCoy, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Mitigating Imprint in Direct-Drive Implosions Using Rarefaction Flows," I. V. Igumenshchev, R. C. Shah, R. Betti, E. M. Campbell, V. N. Goncharov, J. P. Knauer, S. P. Regan, A. Shvydky, A. L. Velikovich, and A. J. Schmitt, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Modeling of a Laser-Generated Plasma in MG Magnetic Fields," L. S. Leal, A. V. Maximov, A. B. Sefkow, R. Betti, and V. V. Ivanov, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Modeling of Target Offset in Warm Implosions on OMEGA," K. S. Anderson, C. J. Forrest, O. M. Mannion, D. T. Michel, R. C. Shah, J. A. Marozas, P. B. Radha, F. J. Marshall, J. P. Knauer, R. Epstein, V. Gopalaswamy, M. Gatu Johnson, and S. Laffite, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"A Novel Double-Spike Pulse Shape for OMEGA Cryogenic Implosions," D. Patel, R. Betti, V. Gopalaswamy, J. P. Knauer, K. M. Woo, S. P. Regan, T. C. Sangster, C. Stoeckl, and F. J. Marshall, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Numerical Investigation of Laser Imprint Mitigation in *Revolver* Ignition Designs," P. W. McKenty, T. J. B. Collins, J. A. Marozas, E. M. Campbell, K. Molvig, and M. J. Schmitt, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Numerical Simulations of Shock-Release OMEGA EP Experiments," A. Shvydky, D. Haberberger, J. Carroll-Nellenback, D. Cao, D. H. Froula, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, J. A. Marozas, A. V. Maximov, P. B. Radha, S. P. Regan, and T. C. Sangster, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Optimization of Direct-Drive Inertial Fusion Implosions Through Predictive Statistical Modeling," V. Gopalaswamy, R. Betti, J. P. Knauer, K. M. Woo, D. Patel, A. R. Christopherson, A. Bose, N. Luciani, F. J. Marshall, C. Stoeckl, V. Yu. Glebov, S. P. Regan, D. T. Michel, W. Seka, D. H. Edgell, R. C. Shah, D. Cao, V. N. Goncharov, J. A. Delettrez, I. V. Igumenshchev, P. B. Radha, T. J. B. Collins, T. C. Sangster, E. M. Campbell, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018 (invited).

"Perturbation Evolution at Early Stages of Inertial Confinement Fusion Implosions," V. N. Goncharov, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Photon Acceleration in the Ionization Front of a Flying Focus," A. Howard, D. Turnbull, A. Davies, D. H. Froula, and J. P. Palastro, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"*Revolver* Designs for the National Ignition Facility Using Current and Optimized Phase Plates," R. S. Craxton, Y. Yang, E. M. Garcia, P. W. McKenty, M. J. Schmitt, and K. Molvig, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Saturation of Stimulated Raman Scattering in Inhomogeneous Plasma," A. V. Maximov, J. G. Shaw, R. W. Short, and J. P. Palastro, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Self-Similar Multimode Bubble-Front Evolution of the Ablative Rayleigh–Taylor Instability in Two and Three Dimensions," H. Zhang, R. Betti, D. Zhao, H. Aluie, R. Yan, and D. Shvarts, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Signatures of Systematic Azimuthal Asymmetry in Nuclear Diagnosis of ICF Implosions on the NIF," H. G. Rinderknecht, D. T. Casey, R. Bionta, R. Hatarik, A. Moore, E. P. Hartouni, D. Scholssberg, G. P. Grim, O. L. Landen, and P. K. Patel, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Study of the Exchange-Correlation Thermal Effects for Transport and Optical Properties of Shocked Deuterium," V. V. Karasiev, S. X. Hu, M. Zaghoo, and T. R. Boehly, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Suppressing Parametric Instabilities with Laser Frequency Detuning and Bandwidth," R. K. Follett, J. G. Shaw, D. H. Edgell, D. H. Froula, C. Dorrer, J. Bromage, E. M. Campbell, E. M. Hill, T. J. Kessler, J. P. Palastro, J. F. Myatt, J. W. Bates, and J. L. Weaver, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 55–9 November 2018 (invited).

"Thermonuclear Ignition and the Onset of Propagating Burn in Inertial Fusion," A. R. Christopherson, R. Betti, S. Miller, V. Gopalaswamy, D. Cao, D. Keller, and J. D. Lindl, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Ultrafast Thomson Scattering and the Effects of Collisions on the Electron Plasma Wave Feature," A. Davies, J. Katz, S. Bucht, D. Haberberger, J. P. Palastro, I. A. Begishev, J. L. Shaw, D. Turnbull, R. Boni, D. H. Froula, and W. Rozmus, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Using the 10 to 20 keV X-Ray Spectrum to Infer an Electron Temperature ($T_e$) as an Implosion Diagnostic on OMEGA," D. Cao, R. C. Shah, S. P. Regan, C. Sorce, R. Epstein, I. V. Igumenshchev, V. Gopalaswamy, A. R. Christopherson, W. Theobald, P. B. Radha, and V. N. Goncharov, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Wave-Function Amplitude Analysis of the $^5$He Resonance in the TT Neutron Spectrum," Z. L. Mohamed, J. P. Knauer, C. J. Forrest, and M. Gatu Johnson, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"X-Ray Diffraction of Ramp-Compressed Potassium," X. Gong, D. N. Polsin, L. Crandall, M. Huff, B. J. Henderson, J. R. Rygg, T. R. Boehly, G. W. Collins, A. Jenei, M. G. Gorman, R. Briggs, J. H. Eggert, and M. I. McMahon, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"X-Ray Diffraction of Ramp-Compressed Sodium," D. N. Polsin, X. Gong, G. W. Collins, M. Huff, L. Crandall, T. R. Boehly, J. R. Rygg, A. Jenei, M. Millot, J. H. Eggert, and M. I. McMahon, presented at the 60th Annual APS Division of Plasma Physics, Portland, OR, 5–9 November 2018.

"Scaled Neutron Yield Enhancement Using the Laser-Driven MagLIF Platform on the OMEGA Laser," J. L. Peebles, J. R. Davies, D. H. Barnak, E. C. Hansen, A. B. Sekfow, V. Yu. Glebov, R. Betti, and E. M. Campbell, presented at the MagLIF Meeting, Portland, OR, 5–9 November 2018.

"Characterizing Magnetic and Electric Fields from Laser-Driven Coils Using Axial Proton Probing," J. L. Peebles, J. R. Davies, D. H. Barnak, A. B. Sefkow, P. A. Gourdain, R. Betti, and A. Arefiev, presented at the U.S.-Japan Workshop on Theory and Simulations of High-Field and High-Energy-Density Physics, Portland, OR, 3–4 November 2018.

"High-Resolving-Power, Streaked X-Ray Spectroscopy of Picosecond-Scale Relativistic Laser-Matter Interactions on the OMEGA EP Laser System," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, C. Taylor, R. K. Jungquist, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. B. Sefkow, A. A. Solodov, C. Stoeckl, W. Theobald, S. X. Hu, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, I. Golovkin, and D. D. Meyerhofer, presented at the U.S.-Japan Workshop on Theory and Simulations of High-Field and High-Energy-Density Physics, Portland, OR, 3–4 November 2018.

"Ion-Velocity Structure in Strong Collisional Plasma Shocks," H. Rinderknecht, H.-S. Park, J. S. Ross, P. A. Amendt, D. P. Higginson, S. C. Wilks, R. K. Follett, D. Haberberger, J. Katz, D. H. Froula, N. M. Hoffman, G. Kagan, B. Keenan, A. Simakov, L. Chacon, and E. Vold, presented at the U.S.-Japan Workshop on Theory and Simulations of High-Field and High-Energy-Density Physics, Portland, OR, 3–4 November 2018.

"Photon Acceleration in the Ionization Front of a Flying Focus," A. Howard, D. Turnbull, A. Davies, D. H. Froula, and J. P. Palastro, presented at the U.S.-Japan Workshop on Theory and Simulations of High-Field and High-Energy-Density Physics, Portland, OR, 3–4 November 2018.

"First Direct-Drive Measurements of Laser-Imprint-Induced Shock-Velocity Nonuniformities on OMEGA," J. L. Peebles, S. X. Hu, V. N. Goncharov, N. Whiting, P. M. Celliers, S. J. Ali, G. Duchateau, E. M. Campbell, T. R. Boehly, and S. P. Regan, presented at the NIF VISAR Workshop, Livermore, CA, 23–24 October 2018.

"Improvements to the VISAR and Streaked Optical Pyrometer at the Omega Laser Facility," M. K. Ginnane, A. Sorce, J. D. Kendrick, R. Boni, B. Saltzman, D. Weiner, M. Zaghoo, D. N. Polsin, B. J. Henderson, J. Zou, M. Couch, C. M. Rogoff, M. C. Gregor, T. R. Boehly, J. R. Rygg, and G. W. Collins, presented at the NIF VISAR Workshop, Livermore, CA, 23–24 October 2018.

"Hydrogen Isotope Identification with Gas Chromatography," W. T. Shmayda, N. P. Redden, and R. Earley, presented at Tritium Focus Group-Sandia, Albuquerque, NM, 22–25 October 2018.

"Influence of Microstructure on the Absorption of Tritium into Gold-Plated 316 Stainless Steel," M. Sharpe, C. Fagan, and W. T. Shmayda, presented at Tritium Focus Group-Sandia, Albuquerque, NM, 22–25 October 2018.

"Low-Pressure, Radio-Frequency-Generated Plasma for Tritium Desorption from Metals," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at Tritium Focus Group-Sandia, Albuquerque, NM, 22–25 October 2018.

"Tritium Interactions with Thin Films of $Al_2O_3$ on Stainless-Steel 316," D. Bassler, C. Fagan, W. T. Shmayda, and W. U. Schröder, presented at Tritium Focus Group-Sandia, Albuquerque, NM, 22–25 October 2018.

"Overview and Status of Direct-Drive Inertial Confinement Fusion in the United States," P. B. Radha, presented at the 27th IAEA Fusion Energy Conference (FEC 2018), Ahmedabad, India, 22–27 October 2018.

"Development of Free Energy Density Functional Theory: Predictive Power of First Principles Approximations for Warm Dense Matter," K. Luo, D. Mejia-Rodriguez, V. V. Karasiev, J. Dufty, and S. B. Trickey, presented at the 4th International Conference on High Energy Density Physics, Ningbo, China, 21–25 October 2018.

"Direct-Drive, High-Adiabat, Cryogenic Implosion Results from the OMEGA Laser System," J. P. Knauer, R. Betti, V. Gopalaswamy, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, M. Gatu Johnson, and J. A. Frenje, presented at the 4th International Conference on High Energy Density Physics, Ningbo, China, 21–25 October 2018 (invited).

"Flying Focus: Spatiotemporal Control of Intensity for Laser Based Applications," D. H. Froula, J. P. Palastro, D. Turnbull, T. J. Kessler, A. Davies, P. Franke, A. Howard, L. Nguyen, D. Ramsey, G. W. Jenkins, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, R. K. Follett, D. Haberberger, J. Katz, J. L. Shaw, N. Vafaei-Najafabadi, J. Vieira, and F. Quéré, presented at the 4th International Conference on High Energy Density Physics, Ningbo, China, 21–25 October 2018.

"Progress Toward Ignition and Burn in Inertial Confinement Fusion," R. Betti, V. Gopalaswamy, J. P. Knauer, A. R. Christopherson, D. Patel, K. M. Woo, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, R. D. Petrasso, and O. A. Hurricane, presented at the 4th International Conference on High Energy Density Physics, Ningbo, China, 21–25 October 2018.

"AlGaN Metal-Semiconductor-Metal UV Photodetectors," Y. Zhao, presented at Industrial Associates, Rochester, NY, 19 October 2018.

"Fusion: Making a Star on Earth and the Quest for the Ultimate Energy Source to Power the Planet," E. M. Campbell, presented at the AEFM Seminar, Rochester, NY, 11 October 2018.

"The Hybrid Target Approach: A Promising Path Forward to Mitigate Laser Imprint in Direct Drive ICF," W. Theobald, R. Betti, A. Bose, S. X. Hu, E. M. Campbell, S. P. Regan, C. McCoy, A. Casner, L. Ceurvorst, and M. Karasik, presented at the First LMJ-PETAL User Meeting, Bordeaux, France, 4–5 October 2018.

"Overview of the Fundamental Science Program on the Omega Laser Facility," M. S. Wei, and J. M. Soures, presented at the First LMJ-PETAL User Meeting, Bordeaux, France, 4–5 October 2018.

"A Perspective on the Future of ICF and HEDP Research," E. M. Campbell, presented at the First LMJ-PETAL User Meeting, Bordeaux, France, 4–5 October 2018.

"Laser-Plasma Instabilities and Hot-Electron Generation in the Shock-Ignition Intensity Regime," M. S. Wei, C. M. Krauland, S. Muller, S. Zhang, J. Li, J. L. Peebles, F. N. Beg, W. Theobald, E. Borwick, C. Ren, C. Stoeckl, D. Haberberger, T. Filkins, D. Turnbull, R. Betti, E. M. Campbell, J. Trela, D. Batani, K. Glize, R. Scott, and L. Antonelli, presented at the CELIA Seminar, Bordeaux, France, 3 October 2018.

"Understanding ICF Implosions on OMEGA: From Intrinsic Material Properties to Laser Imprints," S. X. Hu, presented at the CELIA Seminar, Bordeaux, France, 3 October 2018.

"OMEGA Neutron Imaging Project," S. P. Regan, C. J. Forrest, W. Theobald, C. Sorce, C. Danly, I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, V. Yu. Glebov, T. C. Sangster, E. M. Campbell, P. Volegov, T. Murphy, C. Wilde, J. Kline, O. Landoas, T. Caillaud, B. Rosse, M. Briat, I. Thfoin, J. L. Bourgade, T. Dautremer, E. Barat, and J. D. Kilkenny, presented at the CEA-NNSA Joint Diagnostic Meeting, Le Barp, France, 2–3 October 2018.

"Three-Dimensional Hot-Spot X-Ray Imaging for OMEGA DT Cryogenic Implosions," W. Theobald, presented at the CEA-NNSA Joint Diagnostic Meeting, Le Barp, France, 2–3 October 2018.

"History of the Center for Optics Manufacturing," J. Schoen, presented at the AmeriCOM Symposium; Rochester, NY, 27 September 2018.

"High Energy Density Science: A New Window to the Quantum Realm and New Worlds," G. W. Collins, J. R. Rygg, T. R. Boehly, M. Zaghoo, D. N. Polsin, B. J. Henderson, X. Gong, L. Crandall, J. J. Ruby, G. Tabak, M. Huff, J. H. Eggert, A. Lazicki, R. F. Smith, F. Coppari, D. E. Fratanduono, D. G. Hicks, Y. Ping, D. Swift, P. M. Celliers, D. G. Braun, S. Hamel, M. Millot, M. Gorman, R. Briggs, S. Ali, R. Kraus, M. McMahon, A. Colman, P. Loubeyre, S. Brygoo, R. Jeanloz, R. Falcone, C. Bolme, A. Gleason, S. H. Glenzer, H. J. Lee, T. Duffy, J. Wang, J. Wark, and G. Gregori, presented at the SLAC Lecture, Menlo Park, CA, 26 September 2018.

"Damage Morphology at Pulse Lengths Near the Transition from Intrinsic to Defect-Driven Initiation in Hafnia-Silica High Reflectors," A. A. Kozlov, B. Hoffman, J. B. Oliver, and S. G. Demos, presented at Laser Damage 2018, Boulder, CO, 23–26 September 2018.

"Damage Thresholds in Sub-PS Hafnia and Silica Monolayers and Correlation to Optical Signatures," M. Chorel, S. Papernov, A. A. Kozlov, B. N. Hoffman, J. B. Oliver, S. G. Demos, L. Lamaignère, T. Lanternier, É. Lavastre, B. Bousquet, and J. Néauport, presented at Laser Damage 2018, Boulder, CO, 23–26 September 2018.

"Investigation and Characterization of Optical Signatures in Multilayer Dielectric Gratings to Improve Cleanliness," B. N. Hoffman, S. Papernov, and S. G. Demos, presented at Laser Damage 2018, Boulder, CO, 23–26 September 2018.

"Laser-Induced–Damage Mechanisms Under Nanosecond Laser Irradiation in Absorbing Glasses," S. G. Demos, B. N. Hoffman, C. W. Carr, D. A. Cross, R. A. Negres, and J. D. Bude, presented at Laser Damage 2018, Boulder, CO, 23–26 September 2018.

"Laser-Induced–Damage Thresholds of Nematic Liquid Crystals at 1 ns and Multiple Wavelengths," T. Z. Kosc, S. Papernov, A. A. Kozlov, K. Kafka, and K. L. Marshall, and S. G. Demos, presented at Laser Damage 2018, Boulder, CO, 23–26 September 2018.

"Predictions of Electric-Field-Limited Laser Damage for Multilayer Coatings," J. B. Oliver, B. Charles, D. Coates, S. G. Demos, B. N. Hoffman, K. R. P. Kafka, A. A. Kozlov, J. C. Lambropoulos, S. MacNally, T. Noll, S. Papernov, A. L. Rigatti, D. Sadowski, and C. Smith, presented at Laser Damage 2018, Boulder, CO, 23–26 September 2018.

"Tritium Operations at the Laboratory for Laser Energetics," W. T. Shmayda, presented at the 30th Symposium on Fusion Technology, Giardini Naxos, Italy, 16–21 September 2018.

"Breakdown of Fermi Degeneracy in the Simplest Liquid Metal," M. Zaghoo, T. R. Boehly, J. R. Rygg, P. M. Celliers, S. X. Hu, and G. W. Collins, presented at Harvard Physics Scholars Research Retreat, Hull, MA, 12 September 2018.

"Advanced Diagnostics for Laser Direct Drive Inertial Confinement Fusion (ICF)," E. M. Campbell, presented at ULITIMA 2018, Lemont, IL, 11–14 September 2018.

"Characterization of Spatiotemporal Coupling with Multispectral Imaging," S.-W. Bahk and C. Dorrer, presented at the 8th Conference of the International Committee on Ultrahigh Intensity Lasers, Lindau, Germany, 9–14 September 2018.

"Designing an Efficient Raman Amplifier," D. Haberberger, A. Davies, R. Boni, J. Bromage, S. Bucht, R. K. Follett, J. Katz, P. Franke, A. Milder, J. P. Palastro, J. L. Shaw, D. Turnbull, J. D. Zuegel, D. H. Froula, R. Bingham, P. A. Norreys, and J. Sadler, presented at the 8th Conference of the International Committee on Ultrahigh Intensity Lasers, Lindau, Germany, 9–14 September 2018.

"Dynamic Field Distribution Study Inside a Dispersive Multilayer Dielectric Coating for Improving the Ultrashort Laser Pulse Damage Threshold," S.-W. Bahk, J. B. Oliver, K. R. P. Kafka, and J. Bromage, presented at the 8th Conference of the International Committee on Ultrahigh Intensity Lasers, Lindau, Germany, 9–14 September 2018.

"Capabilities and Future Prospects for the Multi-Terawatt (MTW) Laser Facility at LLE," J. D. Zuegel, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"Experimental Capabilities and Results from the Multi-Terawatt Laser at the Laboratory for Laser Energetics," H. G. Rinderknecht, S.-W. Bahk, I. A. Begishev, J. Bromage, R. Cuffney, C. Dorrer, G. Fiksel, T. Filkins, C. Freeman, D. H. Froula, S. T. Ivancic, J. Katz, C. Mileham, P. M. Nilson, J. P. Palastro, M. Spilatro, C. R. Stillman, C. Stoeckl, W. Theobald, D. Turnbull, and J. D. Zuegel, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"A High-Power Laser for Raman Amplification Studies," S. Bucht, J. Bromage, D. Haberberger, and D. H. Froula, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"LLE Perspective on Open Access Large-Scale PE Laser Facility in the U.S.," E. M. Campbell, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"Measuring Electron Distribution Functions Using Collective Thomson Scattering," A. L. Milder and D. H. Froula, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"MTW OPAL: A Technology Development Platform for Ultra-Intense Optical Parametric Chirped-Pulse Amplifier Systems," J. Bromage, S.-W. Bahk, I. A. Begishev, C. Dorrer, M. J. Guardalben, B. N. Hoffman, J. B. Oliver, R. G. Roides, E. M. Schiesser, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"A Multi-Terawatt (MTW) Laser for Plasma Physics Research and Advanced Laser Development," J. D. Zuegel, I. A. Begishev, J. Bromage, S.-W. Bahk, R. Cuffney, C. Dorrer, D. Haberberger, D. H. Froula, C. Mileham, P. M. Nilson, and C. Stoeckl, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"Observation of Nonlocal Heat Flux Using Thomson Scattering," R. J. Henchen, M. Sherlock, W. Rozmus, J. Katz, D. Cao, J. P. Palastro, and D. H. Froula, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"OMEGA Supersonic Gas-Jet Target System Characterization," A. M. Hansen, D. Haberberger, J. Katz, R. K. Follett, and D. H. Froula, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"Picosecond-Resolved Collective Thomson Scattering in Underdense Collisional Plasmas," A. S. Davies, J. Katz, S. Bucht, D. Haberberger, J. P. Palastro, J. L. Shaw, D. Turnbull, R. Boni, I. A. Begishev, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, and W. Rozmus, presented at LaserNetUS, Lincoln, NE, 20–21 August 2018.

"Optically Addressable Liquid Crystal Laser Beam Shapers Employing Photoalignment Layer Materials and Technologies," K. L. Marshall, J. Smith, A. Callahan, H. Carder, M. Johnston, and M. Ordway, presented at Liquid Crystals XXII, San Diego, CA, 19–23 August 2018.

"Liquid Crystals and a 35-Year Journey from Information Displays to Laser Fusion and Beyond," K. L. Marshall, presented at the University of Arizona, College of Optical Sciences, Tuscon, AZ, 16 August 2018 (invited).

"Laser Wakefield Accelerator Platform for OMEGA EP," J. L. Shaw, D. Haberberger, A. Hansen, J. Katz, D. Mastrosimone, D. H. Froula, F. Albert, N. Lemos, L. D. Amorim, and N. Vafaei-Najafabadi, presented at the Advanced Accelerator Concepts Workshop, Breckenridge, CO, 12–17 August 2018.

"Nuclear Science Experiments at the University of Rochester's Omega Laser Facility," C. J. Forrest, V. Yu, Glebov, J. P. Knauer, P. B. Radha, S. P. Regan, J. R. Rygg, U. Schroeder, A. Schwemmlein, C. Stoeckl, J. A. Frenje, M. Gatu Johnson, F. H. Séguin, R. D. Petrasso, H. Sio, D. T. Casey, C. Cerjan, D. Dearborn, M. J. Edwards, G. P. Grim, R. Hatarik, S. P. Hatchett, O. S. Jones, O. L. Landen, A. J. Mackinnon, D. McNabb, S. Quaglioni, D. B. Sayre, S. Sepke, P. Springer, I. Thomson, R. E. Tipton, C. Brune, A. Voinov, B. Appelbe, A. Crilly, G. Hale, H. W. Herrmann, Y. H. Kim, M. Paris, and A. B. Zylstra, presented at the 2018 Low Energy Community Meeting; East Lansing, MI, 10–11 August 2018.

"Characterization of Ultrafast Carrier Dynamics in Semiconducting CdMnTe via Pump-Probe Spectroscopy," B. Atchison, C. Wang, Y. Akbas, and R. Sobolewski, presented at 2018 Kearns Center Research Symposium, Rochester, NY, 30 July 2018.

"Spintronic Terahertz Emitters," T. Shou, J. Zhang, G. Chen, and R. Sobolewski, presented at 2018 Kearns Center Research Symposium, Rochester, NY, 30 July 2018.

"Time-Resolved Terahertz Emitter Spectroscopy," J. Zhang, T. Y. Shou, G. Chen, R. Sobolewski, presented at 2018 Kearns Center Research Symposium, Rochester, NY, 30 July 2018.

"Laser Fusion for Laser Jocks: Basic Principles of a Laser Application Meeting a Great Challenge," J. D. Zuegel, K. S. Anderson, T. R. Boehly, R. Betti, R. S. Craxton, J. H. Kelly, T. J. Kessler, J. P. Knauer, B. E. Krushchwitz, J. R. Marciante, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, and D. D. Meyerhofer, presented at the 2018 Siegman School Lecture, Hven, Sweden, 29 July–4 August 2018.

"Laser Science and Technology for Laser Fusion," J. D. Zuegel, presented at the 2018 Siegman School Lecture, Hven, Sweden, 29 July–4 August 2018.

"Thin-Disk Yb:YAG Regenerative Amplifier System for High-Average-Power Applications," G. W. Jenkins, C. Feng, R. Cuffney, and J. Bromage, presented at the 2018 Siegman School Lecture, Hven, Sweden, 29 July–4 August 2018.

"X-Ray Diffraction of Ramp-Compressed Sodium," D. N. Polsin, T. R. Boehly, G. W. Collins, J. R. Rygg, X. Gong, A. Jenei, M. Millot, J. H. Eggert, and M. I. McMahon, presented at the 2018 Workshop on the International Union of Crystallography Commission on High Pressure, Honolulu, HI, 29 July–2 August 2018.

"LLE: A Unique University-Based Research Center Supporting National Security and Science for the United States," T. C. Sangster, presented at Purdue University Nuclear Engineering, West Lafayette, IN, 26 July 2018.

"Atomic and Electronic Structure of Warm Dense Silicon," R. Saha, J. Topp-Mugglestone, G. Gregori, T. White, S. P. Regan, G. W. Collins, and J. R. Rygg, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Broadband Reflectivity Diagnostic Development for Dynamic Compression Experiments on OMEGA EP," B. J. Henderson, M. Zaghoo, X. Gong, D. N. Polsin, J. R. Rygg, T. R. Boehly, G. W. Collins, S. Ali, P. M. Celliers, A. E. Lazicki, M. Gorman, M. Millot, J. H. Eggert, and M. McMahon, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Crystal Structure and Optical Properties of Ramp-Compressed Sodium," X. Gong, D. N. Polsin, J. R. Rygg, B. J. Henderson, L. Crandall, M. Huff, R. Saha, T. R. Boehly, G. W. Collins, A. E. Lazicki, J. H. Eggert, R. Smith, F. Coppari, M. Gorman, R. Briggs, M. McMahon, and A. Coleman, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Equation-of-State Measurements at High Pressure in Spherical Geometry," J. J. Ruby, J. R. Rygg, C. J. Forrest, B. Bachmann, Y. Ping, A. E. Jenei, J. A. Gaffney, H. Sio, N. V. Kabadi, and G. W. Collins, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Equation-of-State Measurements of Precompressed $CO_2$," L. Crandall, J. R. Rygg, G. W. Collins, T. R. Boehly, M. Zaghoo, A. E. Jenei, D. E. Fratanduono, M. C. Gregor, M. Millot, J. H. Eggert, and D. Spaulding, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"The First Metal: Bench-Top Studies," M. Zaghoo, G. W. Collins, T. R. Boehly, J. R. Rygg, S. X. Hu, I. F. Silvera, A. Salamat, R. Husband and P. M. Celliers, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"High-Pressure Phase Transformations of Ramp-Compressed Aluminum and Sodium," D. N. Polsin, T. R. Boehly, J. A. Delettrez, G. W. Collins, J. R. Rygg, X. Gong, B. J. Henderson, D. E. Fratanduono, R. Smith, R. Kraus, P. M. Celliers, M. Millot, F. Coppari, A. Jenei, D. C. Swift, M. C. Gregor, J. H. Eggert, C. A. McCoy, J.-P. Davis, C. T. Seagle, and M. I. McMahon, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Improvements to the VISAR and Streaked Optical Pyrometer at the Omega Laser Facility," M. K. Ginnane, A. Sorce, J. D. Kendrick, R. Boni, B. Saltzman, D. Weiner, M. Zaghoo, D. N. Polsin, B. J. Henderson, J. Zou., M. Couch, C. M. Rogoff, M. C. Gregor, T. R. Boehly, J. R. Rygg, and G. W. Collins, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Interpreting EXAFS Spectra: Toward Ramp-Compression Studies of Iron Oxide (FeO)," D. A. Chin, P. M. Nilson, G. W. Collins, T. R. Boehly, J. R. Rygg, Y. Ping, and F. Coppari, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Nonsteady Waves Analysis to Extract Sound Speed at High Pressures," M. Huff, D. E. Fratanduono, C. A. McCoy, T. R. Boehly, P. M. Celliers, J. H. Eggert, G. W. Collins, and J. R. Rygg, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Performance and Uncertainty Analysis of the X-Ray Diffraction Platform at the National Ignition Facility," J. R. Rygg, R. F. Smith, A. E. Lazicki, D. G. Braun, D. E. Fratanduono, R. G. Kraus, J. M. McNaney, D. Swift, C. E Wehrenberg, G. W. Collins, F. Coppari, D. N. Polsin, and J. H. Eggert, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Shock-Compressed Methane to 400 GPa," G. Tabak, M. A. Millot, T. R. Boehly, L. Crandall, B. J. Henderson, M. Zaghoo, S. Ali, P. M. Celliers, D. E. Fratanduono, S. Hamel, D. G. Hicks, A. Lazicki, D. Swift, S. Brygoo, P. Loubeyre, R. Kodama, K. Miyanishi, T. Ogawa, N. Ozaki, T. Sano, R. Jeanloz, G. W. Collins, J. H. Eggert, and J. R. Rygg, presented at Research at High Pressure, Holderness, NH, 15–20 July 2018.

"Analysis of Unabsorbed Light Beamlet Images on OMEGA," D. H. Edgell, J. Katz, D. Turnbull, R. K. Follett, J. P. Palastro, and D. H. Froula, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Density-Functional Theory Methods for Transport and Optical Properties: Application to Warm Dense Silicon," V. V. Karasiev, S. X. Hu, and L. Calderin, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Hot-Electron Generation and Preheat in Direct-Drive Experiments at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, W. Seka, R. Epstein, R. W. Short, R. K. Follett, A. R. Christopherson, R. Betti, P. B. Radha, S. P. Regan, D. H. Froula, V. N. Goncharov, J. F. Myatt, P. Michel, M. Hohenberger, T. Chapman, J. D. Moody, J. W. Bates, and A. J. Schmitt, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Mitigating Laser-Imprint Effects on Direct-Drive Implosions on OMEGA with Low-Density Foam Layers," S. X. Hu, W. Theobald, P. B. Radha, J. Peebles, S. P. Regan, M. J. Bonino, D. R. Harding, V. N. Goncharov, N. Petta, T. C. Sangster, E. M. Campbell, and A. Nikroo, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Modeling of Stimulated Raman Scattering in Inhomogeneous Plasmas for Conditions Relevant to the National Ignition Facility," A. V. Maximov, J. G. Shaw, R. W. Short, and J. P. Palastro, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Picosecond-Resolved Collective Thomson Scattering in Underdense Collisional Plasmas," A. S. Davies, J. Katz, S. Bucht, D. Haberberger, J. P. Palastro, J. L. Shaw, D. Turnbull, R. Boni, I. A. Begishev, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, and W. Rozmus, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME 8,–13 July 2018.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. K. Follett, S. P. Regan, R. Epstein, A. R. Christopherson, R. Betti, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. W. Short, D. Turnbull, D. H. Froula, P. B. Radha, J. F. Myatt, P. Michel, M. Hohenberger, G. Swadling, J. S. Ross, T. Chapman, L. Masse, J. D. Moody, J. W. Bates, and A. J. Schmitt, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Plasma Characterization for the OMEGA Laser–Plasma Interaction Platform," A. M. Hansen, D. Turnbull, D. Haberberger, J. Katz, D. Mastrosimone, R. K. Follett, and D. H. Froula, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Plasma Physics and Broadband Lasers—A Path to an Expanded Inertial Confinement Fusion Design Space," D. H. Froula, D. Turnbull, J. Bromage, A. Colaitis, R. K. Follett, T. J. Kessler, J. P. Palastro, J. G. Shaw, V. N. Goncharov, J. D. Zuegel, T. C. Sangster, E. M. Campbell, J. W. Bates, T. Chapman, A. J. Schmitt, J. Weaver, S. P. Obenschain, L. Divol, and P. Michel, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

"Resonant Absorption of a Broadband Laser," J. P. Palastro, J. G. Shaw, R. K. Follett, A. Colaïtis, D. Turnbull, V. N. Goncharov, and D. H. Froula, presented at the 48th Anomalous Absorption Conference, Bar Harbor, ME, 8–13 July 2018.

Flying Focus and Its Application to Plasma-Based Laser Amplifiers," D. Turnbull, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, A. Davies, P. Franke, D. Haberberger, J. Katz, T. J. Kessler, A. L. Milder, J. P. Palastro, J. L. Shaw, and D. H. Froula, presented at the 45th EPS Conference on Plasma Physics, Prague, Czech Republic, 2–6 July 2018.

"Improving Direct-Drive Implosion Symmetry Using 3-D X-Ray Tomography on OMEGA," R. C. Shah, D. T. Michel, I. V. Igumenshchev, K. S. Anderson, A. K. Davis, D. H. Edgell, C. J. Forrest, D. H. Froula, V. N. Goncharov, D. W. Jacobs-Perkins, S. P. Regan, A. Shvydky, E. M. Campbell, and T. C. Sangster, presented at the 45th EPS Conference on Plasma Physics, Prague, Czech Republic, 2–6 July 2018 (invited).

"Progress in Inertial Confinement Fusion via Lasers: How Close to Ignition and Burn?," R. Betti, V. Gopalaswamy, J. P. Knauer, A. R. Christopherson, D. Patel, K. M. Woo, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, D. T. Michel, C. J. Forrest, R. C. Shah, P. B. Radha, V. N. Goncharov, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, R. D. Petrasso, and O. A. Hurricane, presented at the 45th EPS Conference on Plasma Physics, Prague, Czech Republic, 2–6 July 2018.

"Suppressing Two–Plasmon Decay with Laser Frequency Detuning," R. K. Follett, J. G. Shaw, J. F. Myatt, D. H. Froula, R. W. Short, and J. P. Palastro, presented at the 45th EPS Conference on Plasma Physics, Prague, Czech Republic, 2–6 July 2018.

"Adaptive Optics and Wavefront Metrology for High-Intensity Laser Systems," C. Dorrer, B. E. Kruschwitz, S.-W. Bahk, J. Bromage, J. H. Kelly, and V. Bagnoud, presented at Adaptive Optics: Methods, Analysis, and Applications, Orlando, FL, 25–28 June 2018.

"Inertial Confinement Fusion (ICF) Overview; Status, Plans, and Future Prospects," E. M. Campbell, presented at Laser Precision Microfabrication 2018, Edinburgh, UK, 25–28 June 2018.

"Multispectral Wavefront Sensing for Characterizating Spatiotemporal Coupling in Ultrashort Pulses," S.-W. Bahk, and C. Dorrer, presented at Computational Optical Sensing and Imaging, Orlando, FL, 25–28 June 2018.

"Optical Materials Research for 100-PW-Class Laser Systems," K. R. P. Kafka, presented at Advanced Materials for Powerful Lasers, Rochester, NY, 25–26 June 2018.

"Laser-Direct-Drive Inertial Confinement Fusion Research on OMEGA," S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, R. Betti, K. S. Anderson, J. W. Bates, K. Bauer, T. P. Bernat, S. D. Bhandarkar, T. R. Boehly, M. J. Bonino, A. Bose, D. Cao, T. Chapman, G. W. Collins, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, M. Farrell, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu Johnson, C. Gibson, V. Gopalaswamy, V. Yu. Glebov, A. Greenwood, D. R. Harding, M. Hohenberger, S. X. Hu, H. Huang, J. Hund, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, M. Karasik, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, P. Michel, J. D. Moody, J. F. Myatt, A. Nikroo, S. P. Obenschain, J. P. Palastro, J. L. Peebles, R. D. Petrasso, N. Petta, P. B. Radha, J. E. Ralph, M. J. Rosenberg, S. Sampat, A. J. Schmitt, M. J. Schmitt, M. Schoff, W. Seka, R. Shah, R. W. Short, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, W. Sweet, C. Taylor, R. Taylor, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, K. M. Woo, and J. D. Zuegel, presented at Nuclear Photonics 2018, Brasov, Romania, 24–29 June 2018.

"Optical Thomson Scattering in High-Energy-Density Plasmas," D. H. Froula, J. S. Ross, B. Pollock, R. K. Follett, R. J. Henchen, A. Davies, A. M. Hansen, A. L. Milder, J. P. Palastro, J. Katz, and R. Boni, presented at the 45th International Conference on Plasma Science, Denver, CO, 24–28 June 2018.

"Laser-Direct-Drive Inertial Confinement Fusion Research on OMEGA," S. P. Regan, presented at Extreme Light Infrastructure Nuclear Physics, Bucharest, Romania, 22 June 2018.

"Ultrafast X-Ray Spectroscopy of Hot-Dense-Matter Systems," C. R. Stillman, P. M. Nilson, S. T. Ivancic, A. B. Sefkow, C. Mileham, D. J. Nelson, I. A. Begishev, D. H. Froula, I. E. Golovkin, R. A. London, and M. E. Martin, presented at the Stewardship Science Fellowship, San Francisco, CA, 18–21 June 2018.

"Overview of Inertial Fusion Energy (IFE) Concepts Being Developed in the Private Sector," E. M. Campbell, presented at the First IAEA Workshop on Fusion Enterprises, Santa Fe, NM, 13–15 June 2018.

"LLE Program in 2019," E. M. Campbell, presented at the ICF Executives Meeting, Washington, DC, 12–13 June 2018.

"Update on the National LPI Workshop," D. H. Froula, M. Glinsky, P. Michel, J. F. Myatt, J. Weaver, and L. Yin, presented at the NNSA Update, Washington, DC, 12 June 2018.

"Progress in Direct-Drive Inertial Fusion," R. Betti, J. P. Knauer, V. Gopalaswamy, D. Patel, K. M. Woo, A. Bose, N. Luciani, K. S. Anderson, T. J. B. Collins, V. Yu. Glebov, V. N. Goncharov, A. V. Maximov, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, and E. M. Campbell, presented at the 19th International Congress on Plasma Physics, Vancouver, Canada, 4–8 June 2018.

"Nuclear Science Experiments at the University of Rochester's Omega Laser Facility," C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. B. Radha, J. R. Rygg, W. U. Schröder, C. Stoeckl, J. A. Frenje, M. Gatu Johnson, F. H. Séguin, R. D. Petrasso, H. Sio, D. T. Casey, C. Cerjan, D. Dearborn, M. J. Edwards, G. Grim, R. Hatarik, S. P. Hatchett, O. S. Jones, O. L. Landen, A. J. Mackinnon, D. McNabb, S. Quaglioni, D. Sayre, S. Sepke, P. Springer, I. Thomson, R. E. Tipton, C. Brune, A. Vionov, J. D. Kilkenny, B. Appelbe, A. Crilly, G. Hale, H. W. Herrmann, Y. H. Kim, M. Paris, and A. B. Zylstra, presented at Triangle University National Laboratory, Durham, NC, 31 May 2018.

"LLE: A Unique University-Based Research Center of Scale Supporting National Security and Extreme Science," E. M. Campbell, presented at DOE OFES, Washington, DC, 30 May 2018.

“Assaying Hydrogen Isotopes with Gas Chromatography,” W. T. Shmayda and N. Redden, presented at Tritium Focus Group Meeting, Oak Ridge, TN, 15–17 May 2018.

“Distribution of Tritium in the Near Surface of Stainless-Steel 316,” M. Sharpe, C. Fagan, and W. T. Shmayda, presented at Tritium Focus Group Meeting, Oak Ridge, TN, 15–17 May 2018.

“The Effect of Surface Chemistry of ALD Films on Tritium Retention in Stainless Steel,” D. Bassler, W. T. Shmayda, and W. U. Schröder, presented at Tritium Focus Group Meeting, Oak Ridge, TN, 15–17 May 2018.

“Tritium Retention in Hexavalent Chromate-Conversion–Coated Aluminum Alloy,” C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at Tritium Focus Group Meeting, Oak Ridge, TN, 15–17 May 2018.

“Using the T-LIANS Platform to Explore Nuclear Reactions,” A. Schwemmlein, W. U. Schröder, and W. T. Shmayda, presented at Tritium Focus Group Meeting, Oak Ridge, TN, 15–17 May 2018.

“Fabrication of a Glancing-Angle–Deposited Distributed Polarization Rotator for Ultraviolet Applications,” J. B. Oliver, S. MacNally, C. Smith, B. N. Hoffman, J. Spaulding, J. Foster, S. Papernov, and T. J. Kessler, presented at SPIE Advances in Optical Thin Films, Frankfurt, Germany, 14–17 May 2018.

“Characterization of Spatiotemporal Coupling with a Hyperspectral Hartmann Wavefront Sensor,” C. Dorrer and S.-W. Bahk, presented at CLEO 2018, San Jose, CA, 13–18 May 2018.

“High-Stability Time-Lens–Based Picosecond Seed Source,” C. Dorrer and R. J. Brown, presented at CLEO 2018, San Jose, CA, 13–18 May 2018.

“Improved Spatially Dithered Beam Shapers Using Direct Binary Search,” C. Dorrer and J. Qiao, presented at CLEO 2018, San Jose, CA, 13–18 May 2018.

“Pulse-Compressor Grating Alignment Tolerances for Varied Geometries and Bandwidths,” B. Webb, M. J. Guardalben, C. Dorrer, S. Bucht, and J. Bromage, presented at CLEO 2018, San Jose, CA, 13–18 May 2018.

“Spectrally Tunable, Temporally Shaped Parametric Front End to Seed High-Energy Laser Systems,” C. Dorrer, A. Consentino, R. Cuffney, I. A. Begishev, E. M. Hill, and J. Bromage, presented at CLEO 2018, San Jose, CA, 13–18 May 2018.

“Variable Astigmatism Corrector for High-Power Lasers,” S.-W. Bahk, B. E. Kruschwitz, A. L. Rigatti, J. B. Oliver, and J. Bromage, presented at CLEO 2018, San Jose, CA, 13–18 May 2018.

"Laser Safety at the Omega Laser Facilities." J. C. Puth, presented at the 12th Department of Energy Laser Safety Officer Workshop, Rochester, NY, 8–10 May 2018.

"Laser Science and Technology at LLE," J. Bromage, presented at the 12th Department of Energy Laser Safety Officer Workshop, Rochester, NY, 8–10 May 2018.

"LLE: A Unique University-Based Research Center of Scale Supporting National Security and Extreme Science," G. W. Collins, presented at the 12th Department of Energy Laser Safety Officer Workshop, Rochester, NY, 8–10 May 2018.

"Introduction to Optics," K. R. P. Kafka, presented at the 12th Department of Energy Laser Safety Officer Workshop, Rochester, NY, 8–10 May 2018.

"Laser-Plasma Interaction Physics and Direct Drive: Challenges and Path Forward," E. M. Campbell, presented at the 3rd International Conference on Matter and Radiation at Extremes (ICMRE), Qingdao, China, 6–11 May 2018.

"The U.S. National Direct-Drive Inertial Confinement Fusion Program," S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, R. Betti, T. R. Boehly, M. J. Bonino, A. Bose, D. Cao, R. Chapman, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, J. F. Myatt, P. B. Radha, M. J. Rosenberg, W. Seka, R. W. Short, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, C. Taylor, R. Taylor, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, K. M. Woo, J. D. Zuegel, M. A. Barrios, T. Chapman, C. Gibson, C. Goyon, M. Hohenberger, P. Michel, J. D. Moody, J. E. Ralph, J. W. Bates, M. Karasik, S. P. Obenschain, A. J. Schmitt, T. Bernat, J. Hund, N. Petta, M. Farrell, A. Greenwood, H. Huang, M. Schoff, W. Sweet, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, and M. J. Schmitt, presented at the 3rd International Conference on Matter and Radiation at Extremes (ICMRE), Qingdao, China, 6–11 May 2018.

"Wavelength Detuning $\Delta\lambda_0$ Cross-Beam Energy Transfer Mitigation for Polar Direct Drive (PDD) on Shen Guang (SG)-III," J. A. Marozas, M. J. Rosenberg, D. Turnbull, T. J. B. Collins, D. Cao, P. W. McKenty, P. B. Radha, T. C. Sangster, S. P. Regan, V. N. Goncharov, E. M. Campbell, M. W. Bowers, J.-M. G. DiNicola, G. Erbert, M. Hohenberger, B. J. MacGowan, J. D. Moody, L. J. Pelz, and S. T. Yang, presented at the 3rd International Conference on Matter and Radiation at Extremes (ICMRE), Qingdao, China, 6–11 May 2018.

"Analysis of Trends in Experimental Observables for Direct-Drive Cryogenic Implosions on OMEGA, Reconstruction of the Implosion Core and Extrapolation to National Ignition Facility Energy," A. Bose, R. Betti, D. Mangino, K. M. Woo, D. Patel, A. R. Christopherson, V. Gopalaswamy, O. M. Mannion, S. P. Regan, V. N. Goncharov, C. J. Forrest, J. A. Frenje, M. Gatu Johnson, V. Yu. Glebov, J. P. Knauer, F. J. Marshall, R. Nora, P. B. Radha, R. C. Shah, C. Stoeckl, W. Theobald, T. C. Sangster, D. Shvarts, and E. M. Campbell, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Characterization and Detection of the Deterioration of Electrical Connectors in a Flash-Lamp System," M. C. Cornelius, T. W. Walker, and G. A. Brent, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Compensation for Self-Focusing on OMEGA EP by Use of Frequency Conversion," N. R. Bose, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Development of a Tunable UV Capability for Cross-Beam Energy Transfer Mitigation Studies in the OMEGA Target Chamber," B. E. Kruschwitz, M. Barczys, A. Consentino, C. Dorrer, M. J. Guardalben, E. M. Hill, J. Kwiatkowski, D. Nelson, J. C. Puth, D. Turnbull, and L. J. Waxer, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Fielding a Gas Jet on OMEGA and OMEGA EP," D. Mastrosimone, G. Weselak, R. Mosier, C. Sorce, D. Haberberger, D. H. Froula, J. Katz, and A. Hansen, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"High-Stability Sub-10-ps Fourth-Harmonic Probe Seed Source," R. Brown, C. Dorrer, and E. M. Hill, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"A New Spectrally Tunable Narrowband Front-End Source for Cross-Beam Energy Transfer Mitigation Experiments," A. Consentino, C. Dorrer, R. Cuffney, I. A. Begishev, E. M. Hill, B. E. Kruschwitz, and A. Szydlowski, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Omega Facility OLUG 2018 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"On-Shot Focal-Spot Characterization in the OMEGA Target Chamber," L. J. Waxer, M. Heimbueger, J. H. Kelly, S. F. B. Morse, D. Nelson, D. Weiner, and G. Weselak, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Power Balance on a Multibeam Laser," S. Sampat, J. H. Kelly, T. Z. Kosc, A. L. Rigatti, J. Kwiatkowski, W. R. Donaldson, M. H. Romanofsky, L. J. Waxer, R. Dean, and R. Moshier, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Use of CAD for Real-Time Target-Position Guidance and Geometry Validation," G. Pien, W. J. Armstrong, and M. Krieger, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2018.

"Mechanisms of Laser Damage in Optical Components for Petawatt-Class Laser Systems," S. G. Demos, A. A. Kozlov, K. Kafka, J. B. Oliver, S. Papernov, B. Hoffman, T. J. Kessler, S. M. Gracewski, and J. C. Lambropoulos, presented at Pacific Rim Laser Damage 2018, Yokohama, Japan, 24–27 April 2018.

"Current Capabilities of the MIFEDS System," J. Peebles, J. R. Davies, D. H. Barnak, G. Brent, D. Mastrosimone, D. W. Jacobs-Perkins, G. Fiksel, M. J. Shoup III, T. Lewis, G. Gates, P. A. Gourdain, R. Shapovalov, R. Moshier, T. Burgett, and R. Betti, presented at the Meeting on Magnetic Fields in Laser Plasmas, Rochester, NY, 23–24 April 2018.

"Laser Driven Coils on OMEGA EP," J. Peebles, J. R. Davies, D. H. Barnak, A. B. Sefkow, P. A. Gourdain, R. Betti, and A. Arefiev, presented at the Meeting on Magnetic Fields in Laser Plasmas, Rochester, NY, 23–24 April 2018.

"Laser-Driven Magnetized Liner Inertial Fusion on OMEGA," D. H. Barnak, R. Betti, P.-Y. Chang, J. R. Davies, V. Yu. Glebov, E. C. Hansen, J. P. Knauer, J. Peebles, S. P. Regan, R. Epstein, A. B. Sefkow, E. M. Campbell, K. J. Peterson, D. B. Sinars, and S. A. Slutz, presented at the Meeting on Magnetic Fields in Laser Plasmas, Rochester, NY, 23–24 April 2018.

"Characterization of Shaped Bragg Crystal Assemblies for Narrowband X-Ray Imaging," C. Stoeckl, T. Filkins, R. K. Jungquist, C. Mileham, S. P. Regan, M. J. Shoup III, and W. Theobald, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

"High-Resolving-Power, Streaked X-Ray Spectroscopy on the OMEGA EP Laser System," P. M. Nilson, F. Ehrne, C. Taylor, C. Mileham, D. Mastrosimone, R. K. Jungquist, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, A. B. Sefkow, C. Stoeckl, W. Theobald, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

"A High-Throughput, Pulse-Front-Tilt–Compensated Streaked Spectrometer for Picosecond Optical Thomson Scattering," J. Katz, R. Boni, A. Davies, and D. H. Froula, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“Implementation of a Wollaston Interferometry Diagnostic on OMEGA EP,” A. Howard, D. Haberberger, R. Boni, R. Brown, and D. H. Froula, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“Measurements of Bulk-Fluid Motion In Direct-Drive Implosions,” O. M. Mannion, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, S. P. Regan, T. C. Sangster, C. Stoeckl, and M. Gatu Johnson, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“Measuring Electron Distribution Functions Using Collective Thomson Scattering,” A. L. Milder and D. H. Froula, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“Multichannel X-Ray Hot-Spot Imager Operating in the 5- to 3-KeV Range on OMEGA,” R. C. Shah, D. Cao, R. Epstein, S. P. Regan, W. Theobald, B. Kraus, L. Gao, K. Hill, B. Stratton, P. Efthimion, and B. Bachmann, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“The Single Line-of-Sight, Time-Resolved X-Ray Imager Diagnostic on OMEGA,” W. Theobald, C. Sorce, M. Bedzyk, S. T. Ivancic, F. J. Marshall, C. Stoeckl, R. Shah, M. Lawrie, S. P. Regan, T. C. Sangster, E. M. Campbell, T. Hilsabeck, K. Engelhorn, J. D. Kilkenny, D. Morris, M. Chung, J. D. Hares, A. K. L. Dymoke-Bradshaw, P. Bell, J. Celeste, A. Carpenter, M. Dayton, D. K. Bradley, M. C. Jackson, L. Pickworth, S. R. Nagel, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, and Q. Looker, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018

“Supersonic Gas-Jet Characterization with Interferometry and Thomson Scattering on the OMEGA Laser System,” A. Hansen, D. Haberberger, J. Katz, R. K. Follett, and D. H. Froula, Presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“Testing a Cherenkov Neutron Time-of-Flight Detector on OMEGA,” V. Yu. Glebov, M. J. Eckart, C. J. Forrest, G. P. Grim, E. P. Hartouni, R. Hatarik, J. P. Knauer, A. S. Moore, S. P. Regan, T. C. Sangster, D. J. Schlossberg, and C. Stoeckl, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

“Unabsorbed Light Beamlets for Diagnosing Cross-Beam Energy Transfer,” D. H. Edgell, J. Katz, D. Turnbull, and D. H. Froula, presented at the 22nd Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 16–19 April 2018.

"Compensation for Self-Focusing on OMEGA EP by Use of Frequency Conversion of Light," N. Bose, presented at the March for Science, Rochester, NY, 14 April 2018

"Improving the Uniformity of *Revolver* Designs for the National Ignition Facility," Y. Yang and R. S. Craxton, presented at the March for Science, Rochester, NY, 14 April 2018.

"University of Rochester, Laboratory for Laser Energetics," R. S. Craxton, presented at the March for Science, Rochester, NY, 14 April 2018.

"Superconducting Single-Photon Detectors as Smart Sensors," M. Singh, J. Cady, Y. Akbas, G. Chen, R. Sobolewski, and O. Mukhanov, presented at CEIS 2018, Rochester, NY, 12 April 2018.

"Technology Development for Ultra-Intense All-OPCPA Systems," J. Bromage, S.-W. Bahk, I. A. Begishev, C. Dorrer, M. J. Guardalben, B. N. Hoffman, J. B. Oliver, R. G. Roides, E. M. Schiesser, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, presented at the 3rd International Symposium on High Power Laser Science and Engineering, Suzhou, China, 9–12 April 2018.

"Spatiotemporal Control of Laser Intensity for Plasma-Based Applications," J. P. Palastro, D. Turnbull, S.-W. Bahk, R. K. Follett, J. L. Shaw, D. Haberberger, A. Davies, J. Viera, N. Vafaei-Najafabadi, J. Bromage, and D. H. Froula, presented at the 2018 U.S.-Japan Workshop on Theory and Simulations of High-Field and High Energy Density Physics, Hiroshima, Japan, 27–28 March 2018.

"Three-Dimensional Simulations of Direct-Drive Implosions on OMEGA," I. V. Igumenshchev, presented at the 14th Direct-Drive and Fast-Ignition Workshop, York, United Kingdom, 20–22 March 2018.

"Hot-Spot Electron Temperature Inferred from X-Ray Continuum Emission," R. C. Shah, D. Cao, S. P. Regan, R. Epstein, C. Sorce, W. Theobald, B. Kraus, K. Hill, L. Gao, B. Stratton, P. Efthimion, H. Sio, N. Kabadi, J. A. Frenje, D. Thorn, B. Bachmann, C. Jarrot, P. K. Patel, M. B. Schneider, and J. D. Kilkenny, presented at the 14th Direct-Drive and Fast-Ignition Workshop, York, United Kingdom, 20–22 March 2018.

"Planar Laser-Plasma Interaction Experiments at the Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. K. Follett, S. P. Regan, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. Epstein, R. W. Short, D. Turnbull, D. H. Froula, P. B. Radha, J. F. Myatt, P. Michel, M. Hohenberger, G. Swadling, J. S. Ross, T. Chapman, L. Masse, C. Goyon, J. E. Ralph, J. D. Moody, J. W. Bates, and A. J. Schmitt, presented at the NIF User Group Meeting, Livermore, CA, 5–7 February 2018.

"Power Balance on a Multibeam Laser," S. Sampat, J. H. Kelly, T. Z. Kosc, A. L. Rigatti, J. Kwiatkowski, W. R. Donaldson, M. H. Romanofsky, L. J. Waxer, R. Dean, and R. Moshier, presented at LASE, San Francisco, CA, 27 January–1 February 2018.

"Single-Shot Temporal Characterization of a Kilojoule-Level, Picosecond Pulses on OMEGA EP," L. J. Waxer, C. Dorrer, A. Kalb, E. M. Hill, and W. Bittle, presented at LASE, San Francisco, CA, 27 January–1 February 2018.

"Microscopy with Ultraviolet Surface Excitation (MUSE) for Enhancing K–12 and Undergraduate Education in Life Sciences," C. Z. R. Huang, R. W. Wood, and S. G. Demos, presented at SPIE Photonics West, San Francisco, CA, 27 January–1 February 2018.

**2017**

"Tripling the Fusion Yield of OMEGA Direct-Drive Implosions Through Data-Driven Statistical Modeling," R. Betti, V. Gopalaswamy, J. Knauer, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, D. T. Michel, C. J. Forrest, R. Shah, P. B. Radha, V. N. Goncharov, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, and R. Petrasso, presented at the Physics Colloquium at the Shanghai Institute of Laser Plasma, Shanghai, China, 7 December 2017.

"Achieving Record Fusion Yields in Direct-Drive Laser-Fusion Experiments Using Statistical Mapping," R. Betti, V. Gopalaswamy, J. P. Knauer, A. R. Christopherson, D. Patel, K. M. Woo, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, D. T. Michel, C. J. Forrest, R. Shah, P. B. Radha, V. N. Goncharov, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, and R. Petrasso, presented at the 38th Annual Meeting and Symposium Fusion Power Associates, Pathways and Progress Toward Fusion Power; Washington, DC; 6–7 December 2017.

"High Energy Density Microphysics: Progress and Plans," G. W. Collins, presented at the 38th Annual Meeting and Symposium Fusion Power Associates, Pathways and Progress Toward Fusion Power; Washington, DC; 6–7 December 2017.

"Progress Toward Demonstration of Ignition Hydroequivalence on OMEGA," V. N. Goncharov, presented at the 38th Annual Meeting and Symposium Fusion Power Associates, Pathways and Progress Toward Fusion Power; Washington, DC; 6–7 December 2017.

"Tripling the Fusion Yield of OMEGA Direct-Drive Implosions Through Data-Driven Statistical Modeling," R. Betti, V. Gopalaswamy, J. P. Knauer, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, D. T. Michel, C. J. Forrest, R. Shah, P. B. Radha, V. N.

Goncharov, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, and R. Petrasso, presented at the Cornell Engineering Seminar, Ithaca, NY, 30 November 2017.

"Digital Microfluidic Methods for Forming Droplets of Low-Surface-Energy Fluids, Combining Them into Emulsions, and Transforming Them into Polymer Shells," D. R. Harding, B. P. Chock, and T. B. Jones, presented at the Materials Research Society Fall Meeting, Boston, MA, 26 November–1 December 2017.

"Microfluidic Devices for Producing Millimeter-Size Droplets, Emulsions, and Polystyrene Shells for Inertial Fusion Confinement Experiments," N. D. Viza and D. R. Harding, presented at the Materials Research Society Fall Meeting, Boston, MA, 26 November–1 December 2017.

"Systematic Study on the Photoreseponse in $Al_xGa_{1-x}N$ UV Photodetectors," Y. Zhao and W. R. Donaldson, presented at the Materials Research Society Fall Meeting, Boston, MA, 26 November–1 December 2017.

"The 1-D Cryogenic Implosion Campaign on OMEGA," R. Betti, V. Gopalaswamy, J. P. Knauer, A. R. Christopherson, D. Patel, K. M. Woo, A. Bose, K. S. Anderson, T. J. B. Collins, S. X. Hu, D. T. Michel, C. J. Forrest, R. Shah, P. B. Radha, V. N. Goncharov, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, M. J. Bonino, D. R. Harding, R. T. Janezic, J. H. Kelly, S. Sampat, T. C. Sangster, S. P. Regan, E. M. Campbell, M. Gatu Johnson, J. A. Frenje, C. K. Li, and R. D. Petrasso, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Absolute Stimulated Raman Sidescattering in Direct-Drive Irradiation Geometries," R. W. Short, A. V. Maximov, and W. Seka, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Advances in Modeling Direct-Drive Ignition-Scale Designs for the National Ignition Facility," T. J. B. Collins, J. A. Marozas, D. Cao, J. A. Delettrez, P. W. McKenty, P. B. Radha, S. Skupsky, and G. Moses, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Analytic Analysis of Convergent Shocks to Multi-Gigabar Conditions," J. J. Ruby, J. R. Rygg, G. W. Collins, B. Bachmann, T. Doeppner, Y. Ping, J. Gaffney, A. Lazicki, A. L. Kritcher, D. Swift, J. Nilsen, O. L. Landen, R. Hatarik, N. Masters, S. R. Nagel, P. A. Sterne, T. Pardini, S. Khan, P. M. Celliers, P. K. Patel, D. O. Gericke, and R. W. Falcone, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Blast-Wave Generation and Propagation in Rapidly Heated Laser-Irradiated Targets," S. T. Ivancic, C. R. Stillman, P. M. Nilson, C. Mileham, A. A. Solodov, and D. H. Froula, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Comparison of the Performance of Polystyrene and Glow-Discharge Polymer Ablators Used in Cryogenic Implosions," C. Stoeckl, R. Epstein, R. Betti, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, D. R. Harding, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. Janezic, J. H. Kelly, D. T. Michel, F. J. Marshall, S. F. B. Morse, S. P. Regan, P. B. Radha, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, J. Zhang, M. Gatu Johnson, J. A. Frenje, R. D. Petrasso, M. Farrell, A. Greenwood, M. Schoff, and W. Sweet, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Conduction-Zone Measurements Using X-Ray Self-Emission Images," A. K. Davis, D. T. Michel, S. X. Hu, Y. Ding, R. Epstein, J. P. Knauer, and D. H. Froula, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Definition of Ignition in Inertial Confinement Fusion," A. R. Christopherson, and R. Betti, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Density-Functional-Theory–Based Equation-of-State Table of Beryllium for Inertial Confinement Fusion Applications," Y. H. Ding, and S. X. Hu, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Dependence of Shock Timing on Coronal Parameters for OMEGA Direct-Drive Implosions," D. Cao, T. R. Boehly, P. B. Radha, D. N. Polsin, A. K. Davis, S. P. Regan, and V. N. Goncharov, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Development of Fast and Reliable Free-Energy Density Functional Methods for Simulations of Dense Plasmas from Cold- to Hot-Temperature Regimes," V. V. Karasiev, S. X. Hu, S. Trickey, and J. Dufty, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Direct-Drive DT Cryogenic Implosion Performance with a Fill Tube," S. P. Regan, D. Cao, V. N. Goncharov, K. S. Anderson, R. Betti, M. J. Bonino, E. M. Campbell, T. J. B. Collins, R. Epstein, C. J. Forrest, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, P. B. Radha, T. C. Sangster, C. Stoeckl, M. Gatu Johnson, J. A. Frenje, R. D. Petrasso, R. W. Luo, A. Tambazidis, M. E. Schoff, and M. Farrell, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Direct Laser Acceleration in Wakefield Accelerators Driven with Circularly Polarized Lasers," L. Shaw, D. H. Froula, N. Lemos, W. B. Mori, C. Joshi, L. D. Amorim, and N. Vafaei-Najafabadi, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Dynamic Conductivity and Partial Ionization in Metallic Hydrogen," M. Zaghoo, and I. F. Silvera, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"The Effect of Laser Imprint on OMEGA Cryogenic Implosions," P. B. Radha, R. Betti, E. M. Campbell, D. Cao, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, J. P. Knauer, J. A. Marozas, F. J. Marshall, S. P. Regan, T. C. Sangster, A. Shvydky, C. Stoeckl, M. Gatu Johnson, J. A. Frenje, and R. D. Petrasso, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Effects of Hot-Spot Geometry on Backscattering and Down-Scattering Neutron Spectra," Z. L. Mohamed, O. M. Mannion, C. J. Forrest, J. P. Knauer, K. S. Anderson, and P. B. Radha, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Enhancing Neutron Yield in Cylindrical Implosions with an Applied Magnetic Field," J. L. Peebles, J. R. Davies, D. H. Barnak, R. Betti, V. Yu. Glebov, J. P. Knauer, K. J. Peterson, and D. B. Sinars, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Equation-of-State Measurements of Precompressed $CO_2$," L. Crandall, J. R. Rygg, G. W. Collins, T. R. Boehly, A. Jenei, D. E. Fratanduono, M. C. Gregor, M. Millot, J. H. Eggert, and D. Spaulding, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Evaluation of the *Revolver* Ignition Design at the National Ignition Facility Using Polar-Direct-Drive Illumination," P. W. McKenty, T. J. B. Collins, J. A. Marozas, R. S. Craxton, E. M. Garcia, D. Cao, D. Keller, A. Shvydky, K. Molvig, and M. J. Schmitt, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Experimental Results from the High-Adiabat Cryogenic Implosion Campaign on OMEGA," J. P. Knauer, R. Betti, V. Gopalaswamy, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, O. M. Mannion, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, M Gatu Johnson, and J. A. Frenje, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Finite Atwood Number Effects on Deceleration-Phase Instability in Room-Temperature Direct-Drive Implosions," S. C. Miller, J. P. Knauer, C. J. Forrest, P. B. Radha, V. N. Goncharov, O. M. Mannion, T. J. B. Collins, J. A. Marozas, and K. S. Anderson, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Flying Focus: Spatiotemporal Control of Longitudinal Intensity," D. H. Froula, D. Turnbull, A. Davies, T. J. Kessler, D. Haberberger, S.-W. Bahk, I. A. Begishev, R. Boni, S. Bucht, J. Katz, J. Palastro, and J. L. Shaw, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Fuel Areal-Density Measurements in Laser-Driven MagLIF from Secondary Neutrons," J. R. Davies, D. H. Barnak, R. Betti, V. Yu. Glebov, J. P. Knauer, J. L. Peebles, K. J. Peterson, and D. B. Sinars, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Heat-Flux Measurements in Laser-Produced Plasmas Using Thomson Scattering from Electron Plasma Waves," R. J. Henchen, V. N. Goncharov, D. Cao, J. Katz, D. H. Froula, W. Rozmus, and M. Sherlock, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"High-Energy-Density–Physics Studies for Inertial Confinement Fusion Applications," S. X. Hu, L. A. Collins, T. R. Boehly, Y. H. Ding, P. B. Radha, V. N. Goncharov, V. V. Karasiev, G. W. Collins, S. P. Regan, and E. M. Campbell, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017 (invited).

"Hugoniot Measurements of Silicon Shock Compressed to 21 Mbar," B. Henderson, T. R. Boehly, S. X. Hu, D. N. Polsin, J. R. Rygg, G. W. Collins, M. C. Gregor, D. E. Fratanduono, R. Kraus, J. H. Eggert, and P. M. Celliers, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Indications of Bulk Fluid Motion in Direct-Drive Implosions," O. M. Mannion, K. S. Anderson, C. J. Forrest, V. Yu. Glebov, C. Stoeckl, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, T. C. Sangster, and M. Gatu Johnson, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Inferred UV Fluence Focal-Spot Profiles from Soft X-Ray Pinhole-Camera Measurements on OMEGA," W. Theobald, C. Sorce, R. Epstein, R. L. Keck, C. Kellogg, T. J. Kessler, J. Kwiatkowski, F. J. Marshall, S. P. Regan, W. Seka, R. Shah, A. Shvydky, C. Stoeckl, and L. J. Waxer, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, J. F. Myatt, W. Seka, R. Epstein, R. W. Short, S. P. Regan, D. H. Froula, P. B. Radha, V. N.

Goncharov, J. W. Bates, A. J. Schmitt, P. Michel, M. Hohenberger, T. Chapman, and J. D. Moody, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Low-Mode Variations of the Cold-Fuel Distribution in Cryogenic DT Implosions on OMEGA," C. J. Forrest, K. S. Anderson, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, O. M. Mannion, P. B. Radha, S. P. Regan, T. C. Sangster, and C. Stoeckl, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Measurements of Sound Velocity and Grüneisen Parameter in CH Shocked to 800 GPa," T. R. Boehly, C. A. McCoy, D. E. Fratanduono, P. Celliers, M. C. Gregor, D. N. Polsin, Y. Ding, S. X. Hu, J. R. Rygg, and G. W. Collins, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Measuring Non-Maxwellian Distribution Functions Using Expanded Thomson Scattering," A. L. Milder, and D. H. Froula, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"A Model for the Growth of Localized Shell Features in Inertial Confinement Fusion Implosions," V. N Goncharov, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Modeling of Stimulated Raman Scattering in Direct-Drive Inertial Confinement Fusion Plasmas for National Ignition Facility Conditions," A. V. Maximov, J. G. Shaw, R. K. Follett, R. W. Short, J. Palastro, and J. F. Myatt, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Nonlinear Excitation of the Linearly Stable Ablative Rayleigh–Taylor Instability for All Wave Numbers," H. Zhang, R. Betti, V. Gopalaswamy, R. Yan, and H. Aluie, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Observation of a New High-Pressure Solid Phase in Dynamically Compressed Aluminum," D. N. Polsin, D. E. Fratanduono, J. R. Rygg, A. Lazicki, R. F. Smith, J. H. Eggert, M. C. Gregor, B. J. Henderson, X. Gong, J. A. Delettrez, R. G. Kraus, P. M. Celliers, F. Coppari, D. C. Swift, C. A. McCoy, C. T. Seagle, J.-P. Davis, S. J. Burns, G. W. Collins, T. R. Boehly, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017 (invited).

"OMEGA Supersonic Gas-Jet Target System Characterization," A. Hansen, D. Haberberger, J. L. Shaw, and D. H. Froula, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"The Physics of Low- and Mid-Mode Asymmetries of the Hot Spot," A. Bose, R. Betti, and K. M. Woo, D. Shvarts, D. S. Clark, S. W. Haan, A. L. Kritcher, O. L. Landen,

J. Lindl, J. H. Nuckolls, and M. D. Rosen, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Picosecond Thermal Dynamics in an Underdense Plasma Measured with Thomson Scattering," D. Haberberger, A. Davies, S. Bucht, J. Katz, J. L. Shaw, D. Turnbull, I. A. Begishev, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, J. D. Sadler, P. A. Norreys, R. Trines, and R. Bingham, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Picosecond Time-Resolved Temperature and Density Measurements with K-Shell Spectroscopy," C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, D. H. Froula, and I. E. Golokin, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Polarization Rotation from Cross-Beam Energy Transfer During Direct-Drive OMEGA Implosions," D. H. Edgell, R. K. Follett, J. Katz, J. F. Myatt, J. G. Shaw, D. Turnbull, and D. H. Froula, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Saturn Designs for Small Proton-Backlighter Targets at the National Ignition Facility," R. S. Craxton, E. M. Garcia, L. T. Browning, S. Le Pape, H.-S. Park, C. K. Li, and A. B. Zylstra, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Signatures of an Intermediate-Mode Asymmetry in OMEGA Implosions," D. Patel, R. Betti, K. M. Woo, D. T. Michel, R. C. Shah, F. J. Marshall, V. Gopalaswamy, A. Bose, D. Cao, J. P. Knauer, C. Stoeckl, and S. P. Regan, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Simulation and Analysis of Time-Gated Monochromatic Radiographs of Cryogenic Implosions on OMEGA," R. Epstein, C. Stoeckl, V. N. Goncharov, P. W. McKenty, S. P. Regan, and P. B. Radha, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Sodium X-Ray Diffraction in the High-Pressure Regime," X. Gong, D. N. Polsin, J. R. Rygg, T. R. Boehly, L. Crandall, B. J. Henderson, S. X. Hu, M. Huff, R. Saha, G. W. Collins, R. Smith, J. H. Eggert, A. E. Lazicki, and M. McMahon, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"A Statistical Approach to Implosion Design on the OMEGA Laser," V. Gopalaswamy, R. Betti, J. P. Knauer, A. R. Christopherson, D. Patel, K. M. Woo, W. Shang, A. Bose, K. S. Anderson, T. J. B. Collins, V. N. Goncharov, P. B. Radha, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, E. M. Campbell, and S. P. Regan, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Subpercent Scale Control of 3-D Modes 1, 2, and 3 of Targets Imploded in Direct-Drive Configuration on OMEGA," D. T. Michel, I. V. Igumenshchev, A. K. Davis, D. H. Edgell, D. H. Froula, D. W. Jacobs-Perkins, V. N. Goncharov, S. P. Regan, R. Shah, A. Shvydky, and E. M. Campbell, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Three-Dimensional Hydrodynamic Simulations of the Effects of Laser Imprint in OMEGA Implosions," I. V. Igumenshchev, E. M. Campbell, V. N. Goncharov, S. P. Regan, A. Shvydky, and A. J. Schmitt, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Three-Dimensional Modeling of Low-Mode Asymmetries in OMEGA Cryogenic Implosions," K. S. Anderson, P. W. McKenty, A. Shvydky, T. J. B. Collins, C. J. Forrest, J. P. Knauer, P. B. Radha, F. J. Marshall, A. Sefkow, and M. M. Marinak, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Three-Dimensional Simulations of Flat-Foil Laser-Imprint Experiments at the National Ignition Facility," A. Shvydky, P. B. Radha, M. J. Rosenberg, K. S. Anderson, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, S. P. Regan, T. C. Sangster, M. Hohenberger, J. M. Di Nicola, J. M. Koning, M. M. Marinak, L. Masse, and M. Karasik, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Three-Dimensional Studies of the Effect of Residual Kinetic Energy on Yield Degradation," K. M. Woo, R. Betti, A. Bose, D. Patel, and V. Gopalaswamy, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Understanding Hard X-Ray Emission in Direct-Drive Implosions," J. A. Delettrez, R. K. Follett, C. Stoeckl, W. Seka, and J. P. Matte, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Upgraded Neutron Time-of-Flight Detectors for DT Implosions on OMEGA," V. Yu. Glebov, C. J. Forrest, J. P. Knauer, O. M. Mannion, S. P. Regan, T. C. Sangster, C. Stoeckl, and M. Gatu Johnson, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Wave-Based Cross-Beam Energy Transfer Simulations with Laser Speckle and Polarization Smoothing," R. K. Follett, D. H. Edgell, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, J. G. Shaw, J. F Myatt, J. W. Bates, K. Obenschain, and J. Weaver, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Wavelength Detuning Cross-Beam Energy Transfer Mitigation Scheme for Direct-Drive: Modeling and Evidence from National Ignition Facility Implosions," J. A. Marozas, M. Hohenberger, M. J. Rosenberg, D. Turnbull, T. J. B. Collins, P. B. Radha, P. W. McKenty, J. D. Zuegel, F. J. Marshall, S. P. Regan, T. C. Sangster, W. Seka, E. M. Campbell, V. N. Goncharov, M. W. Bowers, J.-M. G. DiNicola, G. Erbert, B. J. MacGowan, L. J. Pelz, J. D. Moody, S. T. Yang, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"X-Ray Radiography of Laser-Driven Shocks for Inertial Confinement Fusion," A. Kar, T. R. Boehly, P. B. Radha, D. Cao, D. H. Edgell, S. X. Hu, A. Shvydky, V. N. Goncharov, and S. P. Regan, presented at the 59th Annual Meeting of the APS Division of Plasma Physics, Milwaukee, WI, 23–27 October 2017.

"Microscopy with Ultraviolet Surface Excitation for Enhancing K-12 and Undergraduate Education in Life Science," C. Z. R. Huang, R. W. Wood, and S. G. Demos, presented at the 2017 Biomedical Engineering Society Annual Meeting, Phoenix, AZ, 11–4 October 2017.

"Shaping of Transverse Beam Profiles Through Optical Gain Media," L. E. Bukowski, presented at IONS Rochester 2017, Rochester, NY, 29 September–1 October 2017.

"100-Gbar Power-Balance Activities on OMEGA," S. Sampat, J. H. Kelly, T. Z. Kosc, A. L. Rigatti, J. Kwiatkowski, W. R. Donaldson, M. H. Romanofsky, L. J. Waxer, R. Dean, and R. Moshier, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"Activation Strategy for a Tunable UV Beamline on OMEGA and OMEGA EP," M. Barczys, D. Canning, A. Consentino, C. Dorrer, M. J. Guardalben, E. M. Hill, S. Householder, B. E. Kruschwitz, J. Kwiatkowski, J. O'Sullivan, and L. J. Waxer, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"Advances in Pulse-Shaping Technology on OMEGA and OMEGA EP," E. M. Hill, C. Dorrer, G. Balonek, R. Cuffney, J. H. Kelly, T. Z. Kosc, and M. Spilatro, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"Development and Implementation of a Single-Shot Diagnostic for Characterizing 0.5- to 250-ps Pulses on OMEGA EP," L. J. Waxer, C. Dorrer, E. M. Hill, A. Kalb, and W. A. Bittle, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"Development of a Tunable UV Capability for Cross-Beam Energy Transfer Mitigation Studies in the OMEGA Target Chamber," B. E. Kruschwitz, M. Barczys, A. Consentino, C. Dorrer, M. J. Guardalben, E. M. Hill, J. Kwiatkowski, D. Nelson, J. C. Puth,

D. Turnbull, and L. J. Waxer, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"*In-Situ* Transmission Measurements of Optical Components Using a Ratiometer Technique," J. Kwiatkowski, M. Barczys, D. Canning, B. Ehrich, A. Kalb, B. E. Kruschwitz, N. Mahmutovic, and S. Stagnitto, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"The Omega Laser Facility: Status and Performance," J. Puth, S. F. B. Morse, M. Barczys, D. Canning, J. Kelly, B. E. Kruschwitz, S. Sampat, and S. Stagnitto, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"On-Shot Focal-Spot Characterization in the OMEGA Target Chamber," L. J. Waxer, M. Heimbueger, J. H. Kelly, S. F. B. Morse, D. Nelson, D. Weiner, and G. Weselak, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"Use of CAD Data for Real-Time Target-Position Guidance and Geometry Validation," G. Pien, W. J. Armstrong, and M. Krieger, presented at the 11th International Laser Operations Workshop, Rochester, NY, 26–28 September 2017.

"Direct Laser Acceleration of Electrons in a Laser Wakefield Accelerator with Ionization Injection," J. L. Shaw, N. Lemos, L. D. Amorim, N. Vafaei-Najafabadi, K. A. Marsh, F. S. Tsung, W. B. Mori, C. Joshi, and D. H. Froula, presented at the 3rd European Advanced Accelerator Concepts Workshop, Biodola, Italy, 24–30 September 2017.

"Characterization of Hafnium Oxide Thin Films with Varying Oxygen Content," S. Papernov, M. D. Brunsman, J. B. Oliver, B. Hoffman, A. A. Kozlov, S. G. Demos, A. Shvydky, F. Cavalcante, L. Yang, C. S. Menoni, B. Roshanzadeh, S. T. P. Boyd, L. A. Emmert, and W. Rudolph, presented at the 49th Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–27 September 2017.

"Damage Performance Under 351-nm, Nanosecond Pulses of Magnetorheological Finishing-Polished Fused-Silica Samples Using Different Polishing Compounds and Postprocessing Methods," K. R. P. Kafka, S. Papernov, M. A. DeMarco, C. Hall, K. L. Marshall, B. Hoffman, and S. G. Demos, Presented at the 49th Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–27 September 2017.

"Damage Resistance of Nematic Liquid Crystal Materials for Femtosecond to Nanosecond Pulse Lengths at 1053 nm," T. Z. Kosc, K. L. Marshall, A. A. Kozlov, S. Papernov, and S. G. Demos, presented at the 49th Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–27 September 2017.

"Picosecond Pulse-Damage Mechanism of Hafnia-Silica High Reflectors Investigated by High-Resolution Microscopy," A. A. Kozlov, S. Papernov, S. G. Demos, J. B. Oliver,

A. L. Rigatti, B. Hoffman, and J. C. Lambropoulos, presented at the 49th Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–27 September 2017.

"Simulation of Internal Stress Waves Leading to Laser-Induced Damage in Multilayer Dielectric Gratings," S. M. Gracewski, S. Boylan, J. C. Lambropoulos, J. B. Oliver, T. J. Kessler, and S. G. Demos, presented at the 49th Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–27 September 2017.

"Cross-Beam Energy Transfer Platform on OMEGA," D. H. Froula, D Turnbull, J. Bromage, E. M. Campbell, T. Chapman, A. Consentino, L. Divol, C. Dorrer, D. H. Edgell, R. K. Follett, A. Hansen, E. M. Hill, J. Katz, T. J. Kessler, B. E. Kruschwitz, J. Kwiatkowski, P. Michel, J. F. Myatt, J. C. Puth, T. C. Sangster, A. B. Sefkow, J. G. Shaw, M. J. Shoup III, and D. J. Strozzi, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"Direct-Drive Experiments at the National Ignition Facility," P. B. Radha, J. A. Marozas, M. J. Rosenberg, D. Turnbull, T. R. Boehly, E. M. Campbell, T. J. B. Collins, D. H. Edgell, V. N. Goncharov, R. L. McCrory, D. T. Michel, S. P. Regan, T. C. Sangster, W. Seka, A. A. Solodov, A. Shvydky, B. J. MacGowan, J. DiNicola, M. Hohenberger, J. M Moody, and M. Karasik, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"The National Diagnostics Strategy in the US," T. C. Sangster, J. D. Kilkenny, G. A. Rochau, and S. H. Batha, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"The National Direct-Drive Inertial Confinement Fusion Program," S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, K. S. Anderson, R. Betti, T. R. Boehly, R. Boni, M. J. Bonino, D. Canning, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, W. R. Donaldson, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, H. Huang, I. V. Igumenshchev, R. T. Janezic, D. W. Jacobs-Perkins, J. Katz, R. L. Keck, J. H. Kelly, T. J. Kessler, B. E. Kruschwitz, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. T. Michel, S. F. B. Morse, J. F. Myatt, P. M. Nilson, J. C. Puth, P. B. Radha, M. J. Rosenberg, W. Seka, R. Shah, W. T. Shmayda, R. W. Short, A. Shvydky, M. J. Shoup III, S. Skupsky, A. A. Solodov, C. Sorce, S. Stagnitto, C. Stoeckl, W. Theobald, D. Turnbull, J. Ulreich, M. D. Wittman, V. Gopalaswamy, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, H. Sio, B. Lahmann, P. Bell, S. Bhandarkar, D. K. Bradley, D. A. Callahan, A. Carpenter, D. T. Casey, J. Celeste, M. Dayton, S. N. Dixit, C. S. Goyon, M. Hohenberger, O. A. Hurricane, S. Le Pape, L. Masse, P. Michel, J. D. Moody, S. R. Nagel, A. Nikroo, R. Nora, L. Pickworth, J. E. Ralph, H. G. Rinderknecht, R. P. J. Town, R. J. Wallace, P. Wegner, M. Farrell, P. Fitzsimmons, C. Gibson, A. Greenwood, L. Carlson, T. Hilsabeck, H. Huang, J. D. Kilkenny, R. W. Luo, N. Rice, M. Schoff, W. Sweet, A. Tambazidis, T. Bernat, N. Petta,

J. Hund, S. P. Obenschain, J. W. Bates, M. Karasik, A. J. Schmitt, J. Weaver, M. J. Schmitt, S. Hsu, G. Rochau, L. Claus, Q. Looker, J. Porter, G. Robertson, M. Sanchez, J. Hares, and T. Dymoke-Bradshaw, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"The One-Dimensional Cryogenic Implosion Campaign on the OMEGA Laser System," R. Betti, J. P. Knauer, V. Gopalaswamy, D. Patel, K.-M. Woo, W. Shang, A. Bose, K. S. Anderson, T. J. B. Collins, V. Yu. Glebov, A. V. Maximov, C. Stoeckl, F. J. Marshall, E. M. Campbell, and S. P. Regan, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"A Review of High-Energy-Density-Physics Studies for Inertial Confinement Fusion Applications," S. X. Hu, L. A. Collins, T. R. Boehly, G. W. Collins, P. B. Radha, E. M. Campbell, J. D. Kress, and V. N. Goncharov, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"Understanding the Performance Limitations of Direct-Drive Implosions on OMEGA," V. N. Goncharov, S. P. Regan, E. M. Campbell, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, D. Cao, A. K. Davis, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, F. J. Marshall, R. L. McCrory, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, A. Shvydky, C. Stoeckl, and M. Gatu Johnson, presented at the 10th International Conference on Inertial Fusion Sciences and Applications, Saint Malo, France, 11–15 September 2017.

"Adsorbed Water Influence on Tritium Migration into and out of 316 Stainless Steel," W. T. Shmayda, M. Sharpe, C. Fagan, and W. U. Schröder, presented at the 2nd Asia-Pacific Symposium on Tritium Science, Livermore Valley, CA, 5–8 September 2017.

"Tritium Operations at the University of Rochester's Laboratory for Laser Energetics," W. T. Shmayda, M Sharpe, C. Fagan, and M. D. Wittman, presented at the 2nd Asia-Pacific Symposium on Tritium Science, Livermore Valley, CA, 5–8 September 2017.

"Direct Laser Acceleration of Electrons in a Laser Wakefield Accelerator with Ionization Injection," J. L. Shaw, N. Lemos, L. D. Amorim, N. Vafaei-Najafabadi, K. A. Marsh, F. S. Tsung, W. B. Mori, C. Joshi, and D. H. Froula, presented at the Laser Plasma Accelerator Workshop, Jeju Island South Korea, 27 August–1 September, 2017.

"Transforming the Idler to Seed Raman Amplification," S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, presented at the OSA Foundation Siegman International School on Lasers, Leon, Mexico, 6–11 August 2017.

"Computational Chemistry Modeling and Design of Photoswitchable Alignment Materials for Optically Addressable Liquid Crystal Devices. II. Transition-State Modeling in Azobenzene and Spiropyran Oligomers," K. L. Marshall, U. Kurumbail,

A. Hosein, and M. Hanchett, presented at Liquid Crystals XXI, San Diego, CA, 6–10 August 2017 (invited).

"Optically Robust Photoalignment Materials for Liquid Crystal Device Applications in the Near-UV Region," K. L. Marshall, D. Saulnier, T. Z. Kosc, O. Didovets, and S. H. Chen, presented at Liquid Crystals XXI, San Diego, CA, 6–10 August 2017.

"An Optically Passive Method that Rate Doubles 2-GHz Timing Fiducials," J. Kendrick, R. Boni, and C. Sorce, presented at SPIE Optical Engineering and Applications, San Diego, CA, 6–10 August 2017.

"Dependence of Readout Fade Rate on X-Ray Energy for $BaFBr_{0.85}I_{0.15}$:Eu Image Plates," M. Stoeckl, and A. Kozlov, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Finite-Amplitude Modes in the Ablative Rayleigh-Taylor Instability," V. Gopalaswamy, H. Zhang, R. Betti, R. Yan, and H. Aluie, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"A First-Principles Equation-of-State Table of Beryllium for High-Energy-Density Plasma Simulations," Y. H. Ding, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Interpreting EXAFS Spectra: Toward Ramp-Compression Studies of Iron Oxide," D. A. Chin, P. M. Nilson, G. W. Collins, and J. R. Rygg, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Measuring Non-Maxwellian Distribution Functions Using Expanded Thomson Scattering," A. L. Milder, and D. H. Froula, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"OMEGA Supersonic Gas-Jet Target System Characterization," A. Hansen, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Physics of Matter at Extreme Pressure," G. W. Collins, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Simulating Neutron Time of Flight Data," O. Mannion, and G. Grim, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Striking Isotope Effect in Hydrogen Dissociation Under Pressure," M. Zaghoo, R. J. Husband and I. F. Silvera, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Studying Deceleration-Phase Rayleigh–Taylor Growth by Varying D:T Ratios in Gas-Filled Plastic Implosions," S. Miller, J. Knauer, P. B. Radha, and V. N. Goncharov,

presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"X-Ray Radiography of Laser-Driven Shocks for Inertial Confinement Fusion," A. Kar, P. B. Radha, T. R. Boehly, D. H. Edgell, S. X. Hu, A. Shvydky, V. N. Goncharov, and S. P. Regan, presented at High Energy Density Science Summer School, La Jolla, CA, 30 July–11 August 2017.

"Droplet-Based Microfluidic Approach for Producing Inertial Confinement Fusion Polymer Shells," N. D. Viza, M. H. Romanofsky, and D. R. Harding, presented at the 2nd Microfluidics Congress, Philadelphia, PA, 25–26 July 2016.

"Characterization of (Cd, Mg) Te and (Cd, Mn) Te Single Crystals in the THz Frequency Range Using Integrated Photoconductive and Electro-Optics Effects," J. Serafini, S. B. Trivedi, D. Kochanowska, M. Witkowska-Baran, A. Mycielski, M. Guziewicz, R. Kruszka, W. Słysz, and R. Sobolewski, presented at the 20th International Conference on Electron Dynamics in Semiconductors, Optoelectronics, and Nanostructures, Buffalo, NY, 17–21 July 2017.

"Low-Temperature Performance of Semiconducting Asymmetric Nano-Channel Diodes," Y. Akbas, G. R. Savich, A. Jukna, T. Plecenik, P. Ďurina, A. Plecenik, G. W. Wicks, and R. Sobolewski, presented at the 20th International Conference on Electron Dynamics in Semiconductors, Optoelectronics, and Nanostructures, Buffalo, NY, 17–21 July 2017.

"Terahertz Time-Domain Spectroscopy Characterization of Carbon Nanostructures Embedded in Polymer," G. Chen, R. Shrestha, A. Amori, Z. Staniszewski, A. Jukna, A. Korliov, C. Richter, M. El Fray, T. Krauss, and R. Sobolewski, presented at the 20th International Conference on Electron Dynamics in Semiconductors, Optoelectronics, and Nanostructures, Buffalo, NY, 17–21 July 2017.

"The First Observation of the bcc Phase in Aluminum Compressed to 559 GPa," D. N. Polsin, T. R. Boehly, J. A. Delettrez, G. W. Collins, J. R. Rygg, M. C. Gregor, B. Henderson, C. A. McCoy, D. E. Fratanduono, R. F. Smith, R. G. Kraus, J. H. Eggert, F. Coppari, A. Jenei, D. C. Swift, and P. M. Celliers, presented at the 20th Conference on Shock Compression of Condensed Matter, St. Louis, MO, 9–14 July 2017.

"Hugoniot Measurements of Silicon Shock Compressed to 25 Mbar," B. Henderson, D. N. Polsin, T. R. Boehly, M. C. Gregor, S. X. Hu, G. W. Collins, J. R. Rygg, D. E. Fratanduono, and P. M. Celliers, presented at the 20th Conference on Shock Compression of Condensed Matter, St. Louis, MO, 9–14 July 2017.

"X-Ray Diffraction Experiments on Ramp-Compressed Aluminum at the National Ignition Facility and on OMEGA," D. N. Polsin, T. R. Boehly, J. A. Delettrez, G. W. Collins, J. R. Rygg, M. C. Gregor, C. A. McCoy, B. J. Henderson, D. E. Fratandouno, R. Smith, R. Kraus, J. H. Eggert, F. Coppari, A. Jenei, D. C. Swift, and P. M. Celliers,

presented at the 20th Conference on Shock Compression of Condensed Matter, St. Louis, MO, 9–14 July 2017.

"Three Unobscured Reflective Relays for High-Power, Broadband Laser Beam Transport," E. M. Schiesser, S.-W. Bahk, and J. P. Rolland, presented at the International Optical Design Conference, Denver, CO, 9–13 July 2017.

"The Scaling of Laser–Plasma Instabilities in Direct-Drive Inertial Confinement Fusion from OMEGA to the National Ignition Facility," J. F. Myatt, R. K. Follett, J. G. Shaw, A. A. Solodov, I. V. Igumenshchev, V. N. Goncharov, D. H. Edgell, D. H. Froula, T. J. Kessler, W. Seka, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, R. Epstein, C. J. Forrest, V. Yu. Glebov, D. R. Harding, S. X. Hu, R. T. Janezic, J. H. Kelly, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, P. B. Radha, M. Rosenberg, W. T. Shmayda, A. Shvydky, S. Skupsky, C. Stoeckl, W. Theobald, F. Weilacher, B. Yaakobi, P. Michel, T. Chapman, L. Masse, C. S. Goyon, J. E. Ralph, J. D. Moody, M. A. Barrios, O. A. Hurricane, M. Hohenberger, M. M. Marinak, R. Nora, M. Tabak, J. Bates, J. Weaver, M. Karasik, A. J. Schmitt, S. P. Obenschain, J. Hund, N. Petta, M. Farrell, M. Schoff, A. Greenwood, M. Schmitt, and R. Shah, presented at the 44th EPS Conference on Plasma Physics, Belfast, Northern Ireland, 26–30 June 2017.

"Two-Dimensional Single-Shot Characterization of Spatiotemporal Coupling of Ultrashort Pulses Using Chromatic Diversity," S.-W. Bahk, C. Dorrer, and J. Bromage, presented at OSA Imaging and Applied Optics Congress, San Francisco, CA, 26–29 June 2017.

"Picosecond Time-Resolved Observations of Dense Plasma Shifts," C. R. Stillman, P. M. Nilson, S. T. Ivancic, I. E. Golovkin, C. Mileham, I. A. Begishev, and D. H. Froula, presented at the Stewardship Science Graduate Fellowship Program Review, Albuquerque, NM, 18–23 June 2017.

"Photon-Energy and Photon-Number Resolution Capabilities of NbN Superconducting Single-Photon Detectors," J. Kitaygorsky, R. Shouten, S. Dorenbos, E. Reiger, V. Zwiller, W. Słysz, and R. Sobolewski, presented at the 16th International Superconductive Electronics Conference, Sorrento, Italy, 12–16 June 2017.

"Superconducting Fluctuations and Magnetic Properties of NbN/NiCu and NbTiN/NiCu Bilayer Nanostructures for Photon Dectection," W. Lang, B. Aichner, G. Zechner, F. Jausner, R. Puzniak, A. Klimov, W. Słysz, M. Guziewicz, R. Kruszka, M. Wegrzecki, and R. Sobolewski, presented at the 16th International Superconductive Electronics Conference, Sorrento, Italy, 12–16 June 2017.

"Absolute Stimulated Raman Sidescattering in Direct-Drive Irradiation Geometries," R. W. Short, A. V. Maximov, and W. Seka, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Adventures in ICF and HEDP with Magnetic Fields," A. B. Sefkow, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Comparisons Between Ray- and Wave-Based Calculations of Cross-Beam Energy Transfer," R. K. Follett, D. H. Edgell, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, J. G. Shaw, and J. F. Myatt, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Experiments and Simulations of Laser-Driven Magnetized Liner Inertial Fusion," E. C. Hansen, D. H. Barnak, J. R. Davies, R. Betti, A. B. Sefkow, J. Peebles, V. Yu. Glebov, J. P. Knauer, E. M. Campbell, S. P. Regan, A. Harvery-Thompson, K. J. Peterson, D. B. Sinars, S. A. Slutz, A. Birkel, and C. K. Li, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"A First-Principles Equation-of-State Table of Beryllium for High-Energy-Density Plasma Simulations," Y. H. Ding and S. X. Hu, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Hot-Electron Generation at the Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, J. F. Myatt, W. Seka, R. Epstein, R. W. Short, S. P. Regan, D. H. Froula, P. B. Radha, V. N. Goncharov, J. W. Bates, A. J. Schmitt, P. Michel, M. Hohenberger, T. Chapman, and J. D. Moody, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Observation of Stimulated Raman Scattering and Two-Plasmon-Decay Instabilities on OMEGA and the National Ignition Facility," W. Seka, J. F. Myatt, P. Michel, M. J. Rosenberg, A. A. Solodov, T. Chapman, S. P. Regan, R. W. Short, D. T. Michel, and R. K. Follett, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Picosecond Thermal Dynamics in an Underdense Plasma Measured with Thomson Scattering," A. Davies, S. Bucht, J. Katz, D. Haberberger, J. Shaw, D. Turnbull, I. A. Begishev, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, J. Sadler, P. A. Norreys, R. Trines, and R. Bingham, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, J. F. Myatt, P. Michel, S. P. Regan, M. Hohenberger, R. Epstein, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. W. Short, D. Turnbull, R. K. Follett, D. H. Froula, P. B. Radha, T. Chapman, J. D. Moody, L. Masse, C. S. Goyon, J. W. Bates, and A. J. Schmitt, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Plasma-Based Photonic Devices: Wave Plates, Polarizers, and Amplifiers," D. Turnbull, D. H. Froula, T.J. Kessler, D. Haberberger, J. L. Shaw, A. Davies, S. Bucht, P. Michel, C. Goyon, G. E. Kemp, B. B. Pollock, T. Chapman, D. Mariscal, L. Divol, J. S. Ross, S. Patankar, J. D. Moody, E. Tubman, and N. Woolsey, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Three-Dimensional Modeling of Cross-Beam Energy Transfer and Its Mitigation in OMEGA Implosions," D. H. Edgell, R. K. Follett, I. V. Igumenshchev, J. F. Myatt, J. G. Shaw, and D. H. Froula, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Transforming the Idler to Seed Raman Amplification," S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Unprecedented Stability in Z-Pinch Implosions Due to Magnetic Fields and Plasma Physics," A. B. Sefkow, J. M. Koning, M. R. Gomez, S. B. Hansen, K. Cochrane, C. Thoma, D. R. Welch, and M. M. Marinak, presented at the 47th Annual Anomalous Absorption Conference, Florence, OR, 11–16 June 2017.

"Adventures in ICF and HEDP with Magnetic Fields," A. B. Sefkow, presented at the Sixth International Conference on High Energy Density Physics, Shirahama, Japan, 5–9 June 2017.

"Unprecedented Stability in Z-Pinch Implosions Due to Magnetic Fields and Plasma Physics," A. B. Sefkow, J. M. Koning, M. R. Gomez, S. B. Hansen, K. Cochrane, C. Thoma, D. R. Welch, and M. M. Marinak, presented at the Sixth International Conference on High Energy Density Physics, Shirahama, Japan, 5–9 June 2017.

"Importance of Validated Equation-of State Models for Direct-Drive Inertial Confinement Fusion Designs," P. B. Radha, presented at the EOS Workshop, Rochester, NY 31 May–2 June 2017.

"An Apodized-Imaged Hartmann Mask for Quantitative Wavefront Measurements in Laser Systems," C. Dorrer, A. Kalb, G. Gibney, A. Sharma, and S.-W. Bahk, presented at CLEO 2017, San Jose, CA, 14–19 May 2017.

"High-Accuracy, Model-Based Laser Near-Field Beam Shaping," C. Dorrer and J. Hassett, presented at CLEO 2017, San Jose, CA, 14–19 May 2017.

"Two-Dimensional Characterization of Spatiotemporal Coupling of Ultrashort Pulses Based on Chromatic Diversity," S.-W. Bahk, C. Dorrer, and J. Bromage, presented at CLEO 2017, San Jose, CA, 14–19 May 2017.

"Test Results and Progress of SLOS-TRXI on OMEGA," W. Theobald, presented at the CEA-NNSA Joint Diagnostic Meeting, Salives, France, 3–4 May 2017.

"Characterization of the Electrical Properties of Contaminated Dielectric Oils for Pulsed-Power Research," S. L. Ramesh, and K. L. Marshall, presented at the Ninth Omega Laser Facility Users Group Workshop, Rochester, NY, 26–28 April 2017.

"Characterization of Ultrafast Gated Optical Imagers for the OMEGA Beamlets Diagnostic," J. Katz, M. Bedzyk, D. H. Edgell, C. Rogoff, M. Sickles, J. Szczepanski, D. Turnbull, D. Wiener, and D. H. Froula, presented at the Ninth Omega Laser Facility Users Group Workshop, Rochester, NY, 26–28 April 2017.

"Omega Laser Facility OLUG 2017 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at the Ninth Omega Laser Facility Users Group Workshop, Rochester, NY, 26–28 April 2017.

"Recent Work to Improve the Omega Laser Facility's VISAR and Streaked Optical Pyrometer Diagnostics," A. T. Sorce, J. D. Kendrick, R. Boni, M. C. Gregor, D. N. Polsin, B. Saltzman, B. Henderson, J. Zou, M. Couch, C. M. Rogoff, and T. R. Boehly, presented at the Ninth Omega Laser Facility Users Group Workshop, Rochester, NY, 26–28 April 2017.

"Simulations of Laser-Driven Magnetized Liner Inertial Fusion," L. H. Xiao, R. S. Craxton, D. Barnak, and J. Davies, presented at the Ninth Omega Laser Facility Users Group Workshop, Rochester, NY, 26–28 April 2017.

"The Ultrafast Temporal Diagnostic Upgrade Will Provide Improved On-Target Short-Pulse Shape Predictions on OMEGA EP," C. Dorrer, A. Kalb, W. Bittle, J. Bromage, R. Cuffney, E. Hill, and L. Waxer, presented at the Ninth Omega Laser Facility Users Group Workshop, Rochester, NY, 26–28 April 2017.

"100-PW-Class Optical Parametric Chirped-Pulse Amplification: Prospects and Challenges," J. D. Zuegel, presented at SPIE Optics and Optoelectronics 2017, Prague, Czech Republic, 24–27 April 2017.

"Amplitude Distributions of Dark Counts and Photon Counts in NbN Super Conducting Single-Photon Detectors Integrated with the HEMT Readout," J. Kitaygorsky, W. Słysz, R. Shouten, S. Dorenbos, E. Reiger, V. Zwiller, and R. Sobolewski, presented at SPIE Optics and Optoelectronics 2017, Prague, Czech Republic, 24–27 April 2017.

"(Cd,Mg)Te and (Cd,Mn)Te Single Crystals for Time-Resolved Detection of X-Ray Photons," J. Serafini, S. Trivedi, D. Kochanowska, M. Witkowska-Baran, A. Mycielski, J. P. Knauer, and R. Sobolewski, presented at SPIE Optics and Optoelectronics 2017, Prague, Czech Republic, 24–27 April 2017.

"Superconducting Order Parameter Fluctuations in NbN/NiCu and NbTiN/NiCu Bilayer Nanostripes for Photon Detection," W. Lang, B. Aichner, G. Zechner, F. Jausner, A. Klimov, R. Puźniak, W. Słysz, M. Guziewicz, R. Kruszka, M. Węgrzecki, and

R. Sobolewski, presented at SPIE Optics and Optoelectronics 2017, Prague, Czech Republic, 24–27 April 2017.

"Ultra-High Optical Responsivity of Semiconducting Asymmetric Nano-Channel Diodes for Photon Detection," Y. Akbas, T. Plecenik, P. Ďurina, A. Plecenik, A. Jukna, G. Wicks, and R. Sobolewski, presented at SPIE Optics and Optoelectronics 2017, Prague, Czech Republic, 24–27 April 2017.

"Optimization Analysis for THz Time-Domain Spectroscopy of Carbon Nanotubes," Y. Yiming, R. Shrestha, G. Chen, A. Jukna, and R. Sobolewski, presented at the Undergraduate Research Expo, Rochester, NY, 21 April 2017.

"Superconducting Single-Photon Detectors as Smart Sensors: Photon-Energy and Photon-Number Resolution," A. Shramuk, J. Serafini, and R. Sobolewski, presented at the CEIS University Technology Showcase, Rochester, NY, 13 April 2017.

"Channeling Optimization of High-Intensity Laser Beams in Millimeter-Scale Plasmas," L. A. Ceurvorst, N. Ratan, M. F. Kasim, J. Sadler, P. A. Norreys, H. Habara, K. A. Tanaka, S. Zhang, M. S. Wei, S. Ivancic, D. H. Froula, and W. Theobald, presented at the 44th IOP Plasma Physics Conference, Oxford, UK, 3–6 April 2017.

"The National Direct-Drive Program: OMEGA to the National Ignition Facility," S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, R. Betti, T. Bernat, A. Bose, T. R. Boehly, M. J. Bonino, D. Cao, R. Chapman, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, M. Farrell, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu Johnson, C. Gibson, V. Yu. Glebov, A. Greenwood, D. R. Harding, M. Hohenberger, S. X. Hu, H. Huang, J. Hund, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, M. Karasik, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Obenschain, R. D. Petrasso, N. Petta, P. B. Radha, M. J. Rosenberg, A. J. Schmitt, M. J. Schmitt, M. Schoff, W. Seka, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Stoeckl, W. Sweet, C. Taylor, R. Taylor, W. Theobald, J. Ulreich, M. D. Wittman, K. M. Woo, and J. D. Zuegel, presented at the 13th Direct Drive and Fast Ignition Workshop, Salamanca, Spain, 22–24 March 2017.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, J. F. Myatt, S. P. Regan, A. V. Maximov, R. Epstein, T. J. B. Collins, V. N. Goncharov, R. W. Short, D. P. Turnbull, D. H. Froula, P. B. Radha, R. K. Follett, P. A. Michel, M. Hohenberger, T. Chapman, J. D. Moody, L. Masse, C. Goyon, M. A. Barrios, J. W. Bates, and A. J. Schmitt, presented at the 13th Direct Drive and Fast Ignition Workshop, Salamanca, Spain, 22–24 March 2017.

"The First Observation of the bcc Phase in Compressed Aluminum," D. N. Polsin, T. R. Boehly, J. A. Delettrez, G. W. Collins, J. R. Rygg, M. C. Gregor, B. J. Henderson, C. A. McCoy, D. E. Fratanduono, R. F. Smith, R. G. Kraus, J. H. Eggert, F. Coppari, A. Jenei, D. C. Swift, and P. M. Celliers, presented at the March APS Annual Meeting, New Orleans, LA, 13–17 March 2017.

"Characterization of Polystyrene Shells," M. J. Bonino, M. D. Wittman, D. R. Harding, N. Satoh, and M. Takagi, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"Effect of High Ion and Electron Densities, and Substrate Temperature on the Properties of Glow-Discharge Polymer Films," J. M. García Figueroa and D. R. Harding, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"Effect of Tritium-Induced Damage to Plastic Targets from High-Density D-T Permeation," M. D. Wittman, M. J. Bonino, C. Fella, and D. R. Harding, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"Extending the Digital Microfluidics Process to Form Emulsions Using Low-Surface-Energy Fluids," B. P. Chock, D. R. Harding, and T. B. Jones, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"Improvements to the Target and Cryogenic Equipment to Increase the Hot-Spot Pressure in Implosions on OMEGA," D. R. Harding, J. Ulreich, R. Chapman, M. D. Wittman, R. Taylor, C. Taylor, M. J. Bonino, R. Q. Gram, and N. P. Redden, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"The Laboratory for Laser Energetics' Hydrogen Isotope Separation System," N. P. Redden, W. T. Shmayda, M. D. Wittman, J. L. Reid, R. F. Earley, J. Magoon, K. Heung, S. Xiao, T. Sessions, and S. Redd, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"The National Direct-Drive Program: OMEGA to the National Ignition Facility," S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, R. Betti, T. Bernat, A. Bose, T. R. Boehly, M. J. Bonino, D. Cao, R. Chapman, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, M. Farrell, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu Johnson, C. Gibson, V. Yu. Glebov, A. Greenwood, D. R. Harding, M. Hohenberger, S. X. Hu, H. Huang, J. Hund, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, M. Karasik, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Obenschain, R. D. Petrasso, N. Petta, P. B. Radha, M. J. Mosenberg, A. J. Schmitt, M. J. Schmitt, M. Schoff, W. Seka, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Stoeckl, W. Sweet, C. Taylor, R. Taylor, W. Theobald, J. Ulreich, M. D. Wittman, K. M. Woo, and J. D. Zuegel, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"Performance of Different 'Lab-on-Chip' Geometries for Making Double Emulsions for Polystyrene Shells," N. D. Viza and D. R. Harding, presented at the 22nd Target Fabrication Meeting, Las Vegas, NV, 12–16 March 2017.

"The Laser-Plasma Simulation Environment (LPSE): A Flexible Tool for the ICF and HEDP Communities," J. F. Myatt, presented at the NNSA Technical Seminars, Washington, DC, 28 February 2017.

"Next-Generation Lab-on-Chip Methods for Making Plastic Targets for Inertial Confinement Fusion Experiments," D. R. Harding, B. P. Chock, N. D. Viza, T. B. Jones, Z. Bei, W. Wang, and M. Moynihan, presented at the NNSA Technical Seminars, Washington, DC, 14 February 2017.

"Deceleration Phase Hydrodynamic Instabilities, Pressure Degradation from Low to High (Mid) Modes," R. Betti, presented at the IAEC-NNSA Meeting on Hydrodynamic Instabilities in HED Systems, Livermore, CA, 8–10 February 2017.

"Hydrodynamic Instability Growth and Imprint Experiments at the National Ignition Facility," A. Shvydky, M. Hohenberger, P. B. Radha, M. J. Rosenberg, K. S. Anderson, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, S. P. Regan, T. C. Sangster, J. M. DiNicola, J. M. Koning, M. M. Marinak, and L. Masse, presented at the IAEC-NNSA Meeting on Hydrodynamic Instabilities in HED Systems, Livermore, CA, 8–10 February 2017.

"Magnetized Liner Inertial Fusion," R. Betti, D. Barnak, J. Davies, M. J. Bonino, V. Glebov, and M. Campbell, presented at the IAEC-NNSA Meeting on Hydrodynamic Instabilities in HED Systems, Livermore, CA, 8–10 February 2017.

"Channeling Optimization of High-Intensity Laser Beams in Millimeter-Scale Plasmas," L. A. Ceurvorst, N. Ratan, M. F. Kasim, J. Sadler, P. A. Norreys, H. Habara, K. A. Tanaka, S. Zhang, M. S. Wei, S. Ivancic, D. H. Froula, and W. Theobald, presented at the NIF and JLF User Group Meeting, Livermore, CA, 6–8 February 2017.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, J. F. Myatt, S. P. Regan, M. Hohenberger, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. Epstein, R. W. Short, D. P. Turnbull, D. H. Froula, P. B. Radha, P. Michel, T. Chapman, J. D. Moody, L. Masse, C. Goyon, J. E. Ralph, M. A. Barrios, J. W. Bates, and A. J. Schmitt, presented at the NIF and JLF User Group Meeting, Livermore, CA, 6–8 February 2017.

"Refractive Index Seen by a Probe Beam Interacting with a Laser-Plasma System," D. Turnbull, P. Michel, C. Goyon, G. E. Kemp, B. B. Pollock, T. Chapman, D. Mariscal, L. Divol, J. S. Ross, S. Patankar, J. D. Moody, D. H. Froula, D. H. Edgell, R. K. Follett,

J. F. Myatt, and E. M. Campbell, presented at the NIF and JLF User Group Meeting, Livermore, CA, 6–8 February 2017.

"Simultaneous White-Light and Protoporphyrin-IX Fluorescence Imaging for Optimized Cystoscopic Detection of Non-Muscle-Invasive Bladder Cancer," S. G. Demos and R. W. Wood, presented at SPIE Photonics West, San Francisco, CA, 28 January–2 February 2017.

**2016**

"The National Direct-Drive Program," T. C. Sangster, presented at Fusion Power Associates, Washington, DC, 13–14 December 2016.

"Laser–Plasma Instabilities: The Pathway to Understanding and Control," D. H. Froula, presented at the NNSA Seminar, Washington, DC, 13 December 2016.

"Thomson Scattering in Laser-Produced Plasmas," D. H. Froula, presented at the Cornell Laboratory of Plasma Studies Seminar, Ithaca, NY, 7 December 2016.

"An Extreme Ultraviolet Spectrometer Suite for Characterization of Rapidly Heated Solid Matter," S. T. Ivancic, P. M. Nilson, C. R. Stillman, C. Mileham, and D. H. Froula, presented at the 2016 International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 5–9 December 2016.

"Picosecond Time-Resolved Observations of Dense Plasma Line Shifts," C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, I. A. Begishev, D. H. Froula, and I. E. Golovkin, presented at the 2016 International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 5–9 December 2016.

"Simulation and Analysis of Time-Gated Monochromatic Radiographs of Cryogenic Implosions on OMEGA," R. Epstein, C. Stoeckl, V. N. Goncharov, P. W. McKenty, F. J. Marshall, S. P. Regan, R. Betti, W. A. Bittle, D. D. Harding, S. X. Hu, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, C. Mileham, S. F. B. Morse, P. B. Radha, B. S. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, J. Ulreich, and M. D. Wittman, presented at the 2016 International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 5–9 December 2016.

"Streaked X-Ray Imaging of Ultrafast Ionization Fronts Inside a Metal," P. M. Nilson, G. Fiksel, C. Stoeckl, P. A. Jaanimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D. D. Meyerhofer, presented at the 2016 International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 5–9 December 2016.

"High-Resolving-Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, R. K. Jungquist, C. Taylor, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III,

A. A. Solodov, C. Stoeckl, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, presented at the National Diagnostics Workshop, Livermore, CA, 29–30 November 2016.

"Dispensing Surfactant-Containing Water Droplets Using Electrowetting," B. P. Chock, D. R. Harding, and T. B. Jones, presented at the 2016 AIChE Annual Meeting, San Francisco, CA, 13–18 November 2016.

"The Effect of Surface Modifications on Tritium Adsorption and Absorption by Stainless-Steel 316," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at the Rochester Academy of Science 43rd Annual Fall Session, Rochester, NY, 12 November 2016.

"Influence of the Water Layers Adsorbed onto Stainless-Steel 316 on Tritium Migration," M. Sharpe, C. Fagan, and W. T. Shmayda, presented at the Rochester Academy of Science 43rd Annual Fall Session, Rochester, NY, 12 November 2016.

"Characterization of Carbon Nanostructures Through THz Spectroscopy," G. Chen, R. Shrestha, A. Koroliov, A. Jukna, A. Amori, T. Krauss, Z. Staniszewski, E. Fray, A. Łaszcz, A. Czerwinski, M. C. Richter, and R. Sobolewski, presented at the 40th IEEE EDS Activities in Western New York Conference, Rochester, NY, 4 November 2016.

"Ultra-High Optical Responsivity of Semiconducting Asymmetric Nano-Channel Diodes," Y. Akbas, A. Jukna, L. Q. Zhang, Y. Almi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, T. González, T. Plecenik, P. Ďurina, A. Plecnik, G. Wicks, and R. Sobolewski, presented at the 40th IEEE EDS Activities in Western New York Conference, Rochester, NY, 4 November 2016.

"The 1-D Campaign on OMEGA: A Systematic Approach to Find the Optimum Path to Ignition," R. Betti, J. P. Knauer, A. V. Maximov, T. J. B. Collins, C. Stoeckl, A. Bose, J. Woo, A. R. Christopherson, A. Shvydky, W. Theobald, J. A. Delettrez, F. J. Marshall, P. B. Radha, S. P. Regan, E. M. Campbell, W. Shang, W. Seka, and S. X. Hu, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Achievement of Core Conditions for Alpha Heating in Direct-Drive Inertial Confinement Fusion," A. Bose, K. M. Woo, R. Betti, D. Mangino, A. R. Christopherson, E. M. Campbell, R. L. McCrory, S. P. Regan, V. N. Goncharov, T. C. Sangster, C. J. Forrest, V. Yu. Glebov, J. P. Knauer, F. J. Marshall, C. Stoeckl, W. Theobald, R. Nora, J. A. Frenje, M. Gatu Johnson, and D. Shvarts, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Bulk Etch Rate and Swell Rate of CR-39," D. Clarkson, R. Ume, R. Sheets, S. P. Regan, T. C. Sangster, S. Padalino, and J. McLean, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Characterizing Neutron Diagnostics on the nTOF Line at SUNY Geneseo," H. Harrison, H. Seppala, H. Visca, P. Wakwella, K. Fletcher, S. Padalino, C. J. Forrest, S. P. Regan, and T. C. Sangster, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Comparing Ray-Based and Wave-Based Models of Cross-Beam Energy Transfer," R. K. Follett, D. H. Edgell, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, J. G. Shaw, and J. F. Myatt, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Conduction-Zone Measurements Using X-Ray Self-Emission Images," A. K. Davis, D. T. Michel, S. X. Hu, Y. Ding, R. Epstein, J. P. Knauer, and D. H. Froula, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Demonstration of Ion Kinetic Effects in Inertial Confinement Fusion Implosions and Investigation of Magnetic Reconnection Using Laser-Produced Plasmas," M. J. Rosenberg, F. H. Séguin, J. A. Frenje, H. Sio, M. Gatu Johnson, N. Sinenian, C. K. Li, R. D. Petrasso, P. W. McKenty, I. V. Igumenshchev, J. R. Rygg, V. Yu. Glebov, C. Stoeckl, W. Seka, F. J. Marshall, J. A. Delettrez, R. Betti, V. N. Goncharov, P. B. Radha, J. P. Knauer, T. C. Sangster, N. M. Hoffman, G. Kagan, A. Zylstra, H. W. Herrmann, R. E. Olson, D. D. Meyerhofer, H. G. Rinderknecht, P. A. Amendt, R. P. J. Town, S. Le Pape, M. Hohenberger, T. Ma, A. J. Mackinnon, S. C. Wilks, C. Bellei, D. T. Casey, O. L. Landen, J. D. Lindl, H.-S. Park, J. Pino, B. A. Remington, H. F. Robey, M. D. Rosen, A. Nikroo, S. Atzeni, W. Fox, and M. J.-E. Manuel, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016 (invited).

"Density-Modulation-Induced Absolute Laser-Plasma Instabilities in Inertial Confinement Fusion," J. Li, R. Yan, and C. Ren, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Density Profile of a Foil Accelerated by Laser Ablation," J. P. Knauer, S. X. Hu, V. N. Goncharov, and D. Haberberger, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Design of Platforms for Backlighting Spherical Implosions on OMEGA and the National Ignition Facility," R. S. Craxton, M. Hohenberger, W. E. Kehoe, F. J. Marshall, D. T. Michel, P. B. Radha, and M. J. Rosenberg, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Development of a New Fluid Code to Study Laser-Plasma Instabilities," L. Hao, R. Yan, J. Li, and C. Ren, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Direct Laser Acceleration of Electrons in a Laser Wakefield Accelerator with Ionization Injection," J. L. Shaw, N. Lemos, L. D. Amorim, N. Vafaei-Najafabadi, K. A. Marsh, F. S. Tsung, W. B. Mori, and C. Joshi, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Direct Measurements of Hot-Electron Preheat in Inertial Confinement Fusion Implosions," A. R. Christopherson, R. Betti, W. Theobald, C. J. Forrest, E. M. Campbell, J. Howard, J. A. Delettrez, C. Stoeckl, D. H. Edgell, W. Seka, V. Yu. Glebov, A. K. Davis, A. Bose, A. V. Maximov, M. S. Wei, and J. Peebles, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Evaluation of the Fast-Electron Source Function for Two-Plasmon Decay from the Temporal Hard X-Ray Emission," J. A. Delettrez, R. K. Follett, J. F. Myatt, and C. Stoeckl, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Evaluations of Long-Wavelength Perturbations in OMEGA 80-Gbar Cryogenic Implosions," P. W. McKenty, D. Cao, T. J. B. Collins, A. Shvydky, and K. S. Anderson, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Experimental Investigation of Cross-Beam Energy Transfer Mitigation via Wavelength Detuning in Directly Driven Implosions at the National Ignition Facility," M. Hohenberger, J. A. Marozas, P. W. McKenty, M. J. Rosenberg, P. B. Radha, D. Cao, J. P. Knauer, S. P. Regan, M. W. Bowers, J.-M. Di Nicola, G. Erbert, B. J. MacGowan, L. J. Pelz, and S. T. Yang, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Focused Cross-Beam Energy Transfer Experiments on OMEGA," D. H. Froula, D. Turnbull, D. H. Edgell, R. K. Follett, J. F. Myatt, T. J. Kessler, T. C. Sangster, M. Campbell, P. Michel, J. Weaver, and S. P. Obenschain, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Full-Pulse Particle-in-Cell Simulations of Hot-Electron Generation in OMEGA Experiments," E. Borwick, S. X. Hu, J. Li, R. Yan, and C. Ren, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"The Generation of Gigabar Pressures for High-Energy-Density Plasmas," W. Theobald, R. Betti, A. Bose, W. Seka, C. Stoeckl, A. Casner, F. N. Beg, E. Llor Aisa, X. Ribeyre, V. Tikhonchuk, M. S. Wei, M. Vu, M. Hoppe Jr., M. E. Schoff, R. J. Florido, and R. Mancini, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Heavy ion Beams from an Alphatross Source for Use in Calibration and Testing of Diagnostics," R. J. Ward, G. M. Brown, D. Ho, B. F. O. F Stockler, C. G. Freeman, S. J. Padalino, and S. P. Regan, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"High-Performance Cryogenic Designs for OMEGA and the National Ignition Facility," V. N. Goncharov, T. J. B. Collins, J. A. Marozas, S. P. Regan, E. M. Campbell, D. H. Froula, I. V. Igumenshchev, R. L. McCrory, J. F. Myatt, P. B. Radha, T. C. Sangster, and A. Shvydky, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"High-Resolving-Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, R. K. Junquist, C. Taylor, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, C. Stoeckl, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Hot-Electron Generation at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, J. F. Myatt, W. Seka, M. Hohenberger, R. Epstein, R. W. Short, J. G. Shaw, S. P. Regan, D. Turnbull, D. H. Froula, P. B. Radha, J. W. Bates, A. J. Schmitt, P. Michel, T. Chapman, J. D. Moody, J. E. Ralph, and M. A. Barrios, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Hugoniot Measurements of Silicon Shock Compressed to 25 Mbar," B. Henderson, T. R. Boehly, S. X. Hu, M. C. Gregor, D. N. Polsin, R. Rygg, G. W. Collins, D. E. Fratanduono, R. Kraus, J. H. Eggert, and P. M. Celliers, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Hydrodynamic Mixing of Ablator Material into the Compressed Fuel and Hot Spot of Direct-Drive DT Cryogenic Implosions," S. P. Regan, V. N. Goncharov, R. Epstein, D. Cao, I. V. Igumenshchev, S. X. Hu, K. S. Anderson, R. Betti, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, D. R. Harding, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, P. B. Radha, T. C. Sangster, C. Stoeckl, M. Schoff, R. Luo, and M. Farrell, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Investigation of Acquired Fuel Motion Caused by Ice Roughness in OMEGA Cryogenic Experiments," D. Cao, P. W. McKenty, J. P. Knauer, and D. R. Harding, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Laser-Driven Magnetized Liner Inertial Fusion on OMEGA," D. H. Barnak, J. R. Davies, R. Betti, M. J. Bonino, E. M. Campbell, V. Yu. Glebov, D. R. Harding, J. P. Knauer, S. P. Regan, A. B. Sefkow, A. J. Harvey-Thompson, K. J. Peterson, D. B. Sinars,

S. A. Slutz, M. R. Weis, P.-Y. Chang, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016 (invited).

"Laser–Plasma Interaction Near the Quarter-Critical Density in Direct-Drive Inertial Confinement Fusion," A. V. Maximov, H. Wen, J. F. Myatt, R. W. Short, W. Seka, M. J. Rosenberg, and C. Ren, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Measurement of the 6He Decay produced by the 9Be(n,$\alpha$)6He Reaction," K. Cook, M. Coats, M. Yuly, S. Padalino, T. C. Sangster, and S. P. Regan, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Measurements of Fusion Reaction Yield Ratios in Ignition-Relevant Direct-Drive Cryogenic Deuterium-Tritium Implosions," C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. T. Shmayda, C. Stoeckl, and M. Gatu Johnson, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Measurements of the Effect of Adiabat on the Shell Decompression in Direct-Drive Implosions on OMEGA," D. T. Michel, S. X. Hu, A. K. Davis, E. M. Campbell, R. S. Craxton, V. Yu. Glebov, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, C. Stoeckl, and D. H. Froula, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Measuring the Refractive Index of a Laser-Plasma Optical System," D. Turnbull, P. A. Michel, C. Goyon, B. B. Pollock, G. E. Kemp, T. Chapman, D. Mariscal, L. Divol, J. S. Ross, S. Patankar, and J. D. Moody, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Monochromatic Backlighting of Direct-Drive Cryogenic DT Implosions on OMEGA," C. Stoeckl, R. Epstein, R. Betti, W. Bittle, J. A. Delettrez, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, R. L. McCrory, D. T. Michel, C. Mileham, P. W. McKenty, F. J. Marshall, S. F. B. Morse, S. P. Regan, P. B. Radha, B. S. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, D. D. Meyerhofer, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016 (invited).

"Multidimensional Study of High-Adiabat OMEGA Cryogenic Experiments," T. J. B. Collins, R. Betti, A. Bose, A. R. Christopherson, V. N. Goncharov, J. P. Knauer, J. A. Marozas, F. J. Marshall, A. V. Maximov, D. T. Michel, A. Mora, P. B. Radha, S. P. Regan, W. Shang, A. Shvydky, C. Stoeckl, K. M. Woo, and G. Varchas, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Neutron Measurements in Laser-Driven MagLIF Experiments on OMEGA," V. Yu. Glebov, D. H. Barnak, J. R. Davies, J. P. Knauer, C. Stoeckl, R. Betti, S. P. Regan, T. C. Sangster, and E. M. Campbell, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Observation of Solid–Solid Phase Transitions in Ramp-Compressed Aluminum," D. N. Polsin, T. R. Boehly, J. A. Delettrez, G. W. Collins, R. Rygg, M. C. Gregor, B. Henderson, C. A. McCoy, D. E. Fratanduono, R. Smith, R. Kraus, J. H. Eggert, F. Coppari, and P. M. Celliers, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Particle-in-Cell Simulations of Nonlinear Laser–Plasma Interactions and Hot-Electron Generation in the Shock-Ignition Regime," R. Yan, E. Borwick, R. Betti, J. Li, W. Theobald, and C. Ren, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Picosecond Characterization of Underdense Plasmas for Studying Nonlinear Electron Plasma Wave Dynamics," A. Davies, S. Bucht, J. Katz, D. Haberberger, I. A. Begishev, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, J. D. Sadler, R. Trines, R. Bingham, and P. A. Norreys, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Picosecond Streaked K-Shell Spectroscopy of Near-Solid-Density Aluminum Plasmas," C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, I. A. Begishev, D. H. Froula, and I. E. Golovkin, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, J. F. Myatt, S. P. Regan, M. Hohenberger, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. Epstein, R. W. Short, D. P. Turnbull, D. H. Froula, P. B. Radha, P. A. Michel, T. Chapman, J. D. Moody, L. Masse, C. Goyon, J. E. Ralph, M. A. Barrios, J. W. Bates, and A. J. Schmitt, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Reduced Noise UV Enhancement of Etch Rates for Nuclear Tracks in CR-39," R. Sheets, D. Clarkson, R. Ume, S. P. Regan, T. C. Sangster, S. Padalino, and J. Mclean, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Relative Significance of the Stimulated Raman Scattering and Two-Plasmon–Decay Instabilities at Quarter-Critical Density," R. W. Short, H. Wen, A. V. Maximov, J. F. Myatt, and W. Seka, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"The Shock and Release Behavior of Diamond Compressed to 25 Mbar," M. C. Gregor, T. R. Boehly, G. W. Collins, R. Rygg, D. N. Polsin, B. J. Henderson, D. E. Fratanduono, P. M. Celliers, T. Braun, J. H. Eggert, C. A. McCoy, and D. D. Meyerhofer, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016 (invited).

"Shock-Wave Acceleration of Protons on OMEGA EP," A. Pak, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Signatures of Cross-Beam Energy Transfer Mitigation in Proof-of-Principle National Ignition Facility Direct-Drive Experiments," P. B. Radha, M. Hohenberger, J. A. Marozas, F. J. Marshall, M. J. Rosenberg, W. Seka, E. M. Campbell, D. H. Edgell, V. N. Goncharov, R. L. McCrory, P. W. McKenty, S. P. Regan, T. C. Sangster, J. D. Moody, H. Sio, J. A. Frenje, B. Lahmann, and R. D. Petrasso, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Simulation and Analysis of Time-Resolved Narrowband Radiographs of Cryogenic Implosions on OMEGA," R. Epstein, C. Stoeckl, V. N. Goncharov, P. W. McKenty, S. P. Regan, S. X. Hu, and I. V. Igumenshchev, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Stimulated Raman Scattering in Direct-Drive Inertial Confinement Fusion," W. Seka, M. J. Rosenberg, J. F. Myatt, A. A. Solodov, D. H. Edgell, R. W. Short, S. P. Regan, A. V. Maximov, P. Michel, C. S. Goyon, and J. D. Moody, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Study of Yield and Pressure Degradation in Inertial Confinement Fusion," K. M. Woo, R. Betti, R. Yan, H. Aluie, A. Bose, D. X. Zhao, and V. Gopalaswamy, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Temperature Scaling for Magnetized Linear Inertial Fusion," J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, V. Yu. Glebov, J. P. Knauer, A. B. Sefkow, K. J. Peterson, D. B. Sinars, S. A. Slutz, and M. R. Weis, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Three-Dimensional Analysis of the Effects of Low-Mode Asymmetries on OMEGA Cryogenic Implosions," K. S. Anderson, P. W. McKenty, A. Shvydky, J. P. Knauer, T. J. B. Collins, P. B. Radha, F. Weilacher, and M. M. Marinak, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Three-Dimensional Evaluation of Laser Imprint in National Ignition Facility Multi-FM Smoothing by Spectral Dispersion Experiments," A. Shvydky, M. Hohenberger, P. B. Radha, M. J. Rosenberg, K. S. Anderson, V. N. Goncharov, J. A. Marozas, F. J. Marshall,

P. W. McKenty, S. P. Regan, T. C. Sangster, J. M. Koning, M. M. Marinak, and L. Masse, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Three-Dimensional Hydrodynamic Simulations of OMEGA Implosions," I. V. Igumenshchev, D. T. Michel, R. C. Shah, E. M. Campbell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, A. J. Schmitt, and S. Obenschain, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016 (invited).

"Three-Dimensional Modeling of Polarization Effects on Cross-Beam Energy Transfer in OMEGA Implosions," D. H. Edgell, R. K. Follett, J. Katz, J. F. Myatt, J. G. Shaw, and D. H. Froula, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"TNSA Heavy Ion Measurements Using the Time-Resolved Tandem Faraday Cup," M. K. Ginnane, B. Kousar, J. Slish, K. Palmisano, S. Mandanas, S. J. Padalino, T. C. Sangster, S. P. Regan, C. Mileham, and C. Stoeckl, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Transforming the Idler to Seed Raman Amplification," S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Tunable Plasma-Wave Laser Amplifier," D. Haberberger, A. Davies, S. Bucht, J. Bromage, J. D. Zuegel, D. H. Froula, R. Trines, R. Bingham, P. A. Norreys, and J. Sadler, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Two-Dimensional Simulations of Electron Shock Ignition at the Megajoule Scale," W.Shang, R. Betti, K. M. Woo, A. Bose, A. R. Christopherson, and S. X. Hu, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"Understanding Laser-Imprint Effects on Plastic-Target Implosions on OMEGA with New Physics Models," S. X. Hu, D. T. Michel, A. K. Davis, R. Betti, P. B. Radha, V. N. Goncharov, E. M. Campbell, D. H. Froula, C. Stoeckl, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"A Wave-Based Model for Cross-Beam Energy Transfer in Direct-Drive Inertial Confinement Fusion," J. F. Myatt, R. K. Follett, J. G. Shaw, D. H. Edgell, D. H. Froula, I. V. Igumenshchev, and V. N. Goncharov, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016 (invited).

"Wavelength Detuning Cross-Beam Energy Transfer Mitigation for Polar and Symmetric Direct Drive," J. A. Marozas, M. J. Rosenberg, P. B. Radha, F. J. Marshall, W. Seka, D. Cao, P. W. McKenty, T. C. Sangster, S. P. Regan, V. N. Gonvharov, E. M. Campbell, R. L. McCrory, M. Hohenberger, M. W. Bowers, J.-M. Di Nicola, G. Erbert, B. J. MacGowan, L. J. Pelz, and S. T. Yang, presented at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016.

"High-Average-Power, 2-$\mu$m Femtosecond Optical Parametric Oscillator Synchronously Pumped by a Thin-Disk, Mode-Locked Laser," T. Petersen, J. Bromage, and J. D. Zuegel, presented at the Advanced Solid State Lasers Conference, Boston, MA, 30 October–3 November 2016.

"Cryogenic Fill-Tube Target Facility for Evaluating DT-Filled National Ignition Facility and OMEGA-Scale Cryogenic Targets," M. D. Wittman, N. P. Redden, D. R. Harding, W. T. Shmayda, A. Agliata, C. Rees, R. Chapman, R. F. Earley, J. Magoon, M. J. Shoup III, C. Taylor, R. Taylor, J. Ulreich, C. Abbot, T. Lewis, M. H. Romanofsky, J. Szczepanski, J. Konzel, S. Reber, D. J. Lonobile, and J. L. Reid, presented at the 37th Tritium Focus Group Meeting, Rochester, NY, 25–27 October 2016.

"The Effect of Surface Modifications on Tritium Adsorption and Absorption by Stainless Steel (316)," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at the 37th Tritium Focus Group Meeting, Rochester, NY, 25–27 October 2016.

"Influence of the Water Layers Adsorbed onto Stainless-Steel 316 on Tritium Migration," M. Sharpe, C. Fagan, and W. T. Shmayda, presented at the 37th Tritium Focus Group Meeting, Rochester, NY, 25–27 October 2016.

"Properties of DT Ice in Cryotargets," W. T. Shmayda, presented at the 37th Tritium Focus Group Meeting, Rochester, NY, 25–27 October 2016.

"Tritium in Targets Measured by an X-Ray Detection System," T. Burke, M. Sharpe, and T. Shmayda, presented at the 37th Tritium Focus Group Meeting, Rochester, NY, 25–27 October 2016.

"History of the Center for Optics Manufacturing," J. M. Schoen, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016 (invited).

"Removing Pulse Jitter with Temporal Waveguides," B. W. Plansinis, G. P. Agrawal, and W. R. Donaldson, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016.

"Scattered-Light Analysis of Birefringent Coatings for Distributed Polarization Rotators," K. A. Sharma, T. A. Germer, C. Smith, J. D. Zuegel, J. B. Oliver, and T. G. Brown, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016.

"Steve Jacobs: The Optics Outreach Innovator," T. Z. Kosc, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016.

"Thirty-Five Years of Liquid Crystal Research at the Laboratory for Laser Energetics: From Laser Fusion to Electronic Paper," K. L. Marshall, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016 (invited).

"Transient Modulation of Refractive Index Under Exposure to High-Power Laser Pulses," S. G. Demos, B. N. Hoffman, T. J. Kessler, M. D. Feit, R. A. Negres, C. W. Carr, D. A. Cross, J. Bude, and A. M. Rubenchik, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016 (invited).

"Wavefront-Aberration Correction Using Binary Amplitude and Polarization Modulation," Y. Li and C. Dorrer, presented at Frontiers in Optics, Rochester, NY, 17–21 October 2016.

"High-Peak-Power Laser Research at the Laboratory for Laser Energetics and the Pathway to a 100-Petawatt-Class Laser," E. M. Campbell, J. Bromage, J. D. Zuegel, S. G. Demos, D. H. Froula, D. Haberberger, B. Krupke, P. A. Norreys, J. Sadler, B. Bingham, N. Fisch, and W. Leemans, presented at Nuclear Photonics 2016, Monterey, CA, 16–21 October 2016.

"Spectral Splitting of Optical Pulses Inside a Dispersive Medium at a Temporal Boundary," B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, presented at the Industrial Associates Fall Meeting 2016, Rochester, NY, 9–12 October 2016.

"Wavefront-Aberration Correction Using Binary Amplitude and Polarization Modulation," Y. Li and C. Dorrer, presented at the Industrial Associates Fall Meeting 2016, Rochester, NY, 9–12 October 2016.

"Materials Properties Characterization and Device Simulation on a Nonuniform A1 Component $A1_xGa_{1-x}N$ Metal-Semiconductor-Metal Photodetector," Y. Zhao and W. R. Donaldson, presented at the International Workshop on Nitride Semiconductors, Orlando, FL, 2–7 October 2016.

"Electrostatic Effects Following Irradiation of Fused Silica Surfaces with Nanosecond Laser Pulses," S. G. Demos, C. W. Carr, and D. A. Cross, presented at the XLVIII Annual Symposium on Optical Materials for High-Power Lasers, Boulder, CO, 25–28 September 2016.

"Study of the Picosecond Laser Damage in $HfO_2/SiO_2$-Based Thin-Film Coatings in Vacuum," A. A. Kozlov, S. Papernov, J. B. Oliver, A. Rigatti, B. Taylor, B. Charles, and C. Smith, presented at the XLVIII Annual Symposium on Optical Materials for High-Power Lasers, Boulder, CO, 25–28 September 2016.

"Status and Prospects for Demonstrating Ignition via Laser Fusion," R. Betti, presented at the 3rd International Conference on High Energy Density Physics (ICHEDP-3), Shenzhen, China, 23–26 September 2016.

"Beam-Transport Systems for Ultra-Broadband Lasers," S.-W. Bahk, J. B. Oliver, R. K. Jungquist, J. Bromage, E. M. Schiesser, and J. P. Rolland, presented at the 7th International Conference on Ultrahigh Intensity Lasers, Montebello, Quebec, Canada, 11–16 September 2016.

"Extensions to the Multi-Terawatt Laser for Laser Development and Plasma Physics Studies," I A. Begishev, S.-W. Bahk, R. Cuffney, C. Dorrer, D. Haberberger, D. H. Froula, C. Mileham, P. M. Nilson, C. Stoeckl, J. D. Zuegel, and J. Bromage, presented at the 7th International Conference on Ultrahigh Intensity Lasers, Montebello, Quebec, Canada, 11–16 September 2016.

"Plans for a Tunable Raman Amplifier at The Laboratory for Laser Energetics," D. Haberberger, A. Davies, S. Bucht, J. Bromage, J. D. Zuegel, D. H. Froula, R. Trines, R. Bingham, and P. A. Norreys, presented at the 7th International Conference on Ultrahigh Intensity Lasers, Montebello, Quebec, Canada, 11–16 September 2016.

"Temporal Characterization of Optical Pulses by Spectral Phase Diversity," C. Dorrer, L. J. Waxer, A. Kalb, E. M. Hill, and J. Bromage, presented at the 7th International Conference on Ultrahigh Intensity Lasers, Montebello, Quebec, Canada, 11–16 September 2016.

"Transforming the Idler-to-Seed Raman Amplification," S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, presented at the 7th International Conference on Ultrahigh Intensity Lasers, Montebello, Quebec, Canada, 11–16 September 2016.

"Symmetric Illumination and Direct Drive at the National Ignition Facility," E. M. Campbell, presented at the Symmetric Direct-Drive Study, Livermore, CA, 7–8 September 2016.

"Enhancements to the Timing of the OMEGA Laser System to Improve Illumination Uniformity," W. R. Donaldson, J. Katz, T. Z. Kosc, J. H. Kelly, E. M. Hill, and R. E. Bahr, presented at the 2016 Optical Engineering and Applications, San Diego, CA, 28 August–1 September 2016.

"Filling Inertial Confinement Fusion Targets with DT Using Palladium Tritide," W. T. Shmayda, J. Ulreich, R. Earley, and M. D. Wittman, presented at the 22nd Topical Meeting on the Technology of Fusion Energy (TOFE 2016), Philadelphia, PA, 22–25 August 2016.

"Understanding the Material Response to Powerful Energy Fluxes Driven by Picosecond Lasers at the Laboratory for Laser Energetics," D. H. Froula, P. M. Nilson, S. T. Ivancic, C. R. Stillman, C. Mileham, I. A. Begishev, A. A. Solodov, R. K. Jungquist, R. Boni, D. Hassett, C. Stoeckl, W. Theobald, F. Ehrne, D. Mastrosimone, D. Nelson, C. Taylor, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, K. W. Hill, L. Gao, M. Bitter, and P. C. Efthimion, presented at JOWOG37, Aldermaston, UK, 18–22 July 2016.

"Characterization of Glancing-Angle–Deposited Magnesium Oxide Films," J. B. Oliver, C. Smith, B. Taylor, J. Spaulding, S. MacNally, and T. Shea, presented at Novel Optical Materials and Applications, Vancouver, British Columbia, Canada, 18–20 July 2016.

"Observation of Solid-Solid Phase Transitions in Pump-Compressed Aluminum," D. Polsin, T. R. Boehly, J. A. Delettrez, M. C. Gregor, C. A. McCoy, B. Henderson, D. E. Fratanduono, R. Smith, R. Kraus, J. H. Eggert, R. Collins, F. Coppari, and P. M. Celliers, presented at High-Pressure Research, Holderness, NH, 17–22 July 2016.

"National Direct-Drive Program on OMEGA and the National Ignition Facility," V. N. Goncharov, S. P. Regan, E. M. Campbell, T. C. Sangster, P. B. Radha, J. F. Myatt, D. H. Froula, R. Betti, T. R. Boehly, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. T. Michel, W. Seka, A. Shvydky, C. Stoeckl, W. Theobald, and M. Gatu-Johnson, presented at the 43rd European Physical Society Conference on Plasma Physics, Leuven, Belgium, 4–8 July 2016 (invited).

"Conceptual Design of a Single-Line-of-Sight Resolved X-Ray Imager on OMEGA," W. Theobald, C. Sorce, M. Bedzyk, F. J. Marshall, C. Stoeckl, S. P. Regan, T. Hilsabeck, J. D. Kilkenny, D. Morris, M. Chung, J. Hares, A. Dymoke-Bradshaw, P. Bell, J. Celeste, A. Carpenter, M. Dayton, D. K. Bradley, M. C. Jackson, L. Pickworth, S. Nagel, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, and Q. Looker, presented at the CEA-NNSA Workshop, Rochester, NY, 29–30 June 2016.

"High-Resolving-Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, R. K. Jungquist, C. Taylor, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, C. Stoeckl, D. H. Froula, K. M. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, presented at the CEA-NNSA Workshop, Rochester, NY, 29–30 June 2016.

"A New Microchannel-Plate Neutron Time-of-flight Detector," V. Yu. Glebov, R. Flight, C. J. Forrest, J. P. Knauer, S. P. Regan, M. H. Romanofsky, T. C. Sangster, and C. Stoeckl, presented at the CEA-NNSA Workshop, Rochester, NY, 29–30 June 2016.

"Record Fifth-Harmonic–Generation Efficiency Producing 211-nm Pulses Using Cesium Lithium Borate," I. A. Begishev, J. Bromage, J. D. Zuegel, P. S. Datte, and S. T. Yang, presented at the CEA-NNSA Workshop, Rochester, NY, 29–30 June 2016.

"Neutron-Induced Break-up Reaction Using Deuterium Fusion Neutrons at the Omega Laser Facility," C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, W. U. Schroeder, J. A. Frenje, M. Gatu Johnson, M. W. Paris, G. Hale, and A. B. Zylstra, presented at the 2016 R-Matrix Workshop on Methods and Applications, Santa Fe, NM, 27 June–1 July 2016.

"A Streaked X-Ray Spectroscopy Platform for Rapidly Heated, Near-Solid Density Plasmas," C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, I. A. Begishev, R. K. Junquist, and D. H. Froula, presented at the 2016 DOE NNSA Stewardship Science Graduate Fellowship Program, Las Vegas, NV, 27–30 June 2016.

"Tritium Activities at the University of Rochester's Laboratory for Laser Energetics," W. T. Shmayda, M. D. Wittman, J. L. Reid, and R. F. Earley, presented at the 15th Meeting of the Tritium Users Group, Southampton, UK, 21–22 June 2016.

"Tritium Interaction with Stainless Steel," W. T. Shmayda, presented at the 15th Meeting of the Tritium Users Group, Southampton, UK, 21–22 June 2016.

"Status and Prospects for Burning Plasmas via Laser Fusion," R. Betti, A. R. Christopherson, A. Bose, K. M. Woo, J. Howard, K. S. Anderson, E. M. Campbell, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, W. Theobald, M. J. Edwards, R. Nora, B. K. Spears, and J. Sanz, presented at the 43rd IEEE International Conference on Plasma Science, Banff, Alberta, Canada, 19–23 June 2016 (invited).

"Focal-Spot Optimization by Polarization Modullation," C. Dorrer, Y. Li, and P. Fiala, presented at CLEO 2016, San Jose, CA, 5–10 June 2016.

"High-Contrast Time-Multiplexed Pulse-Shaping Systems," C. Dorrer, W. A. Bittle, R. Cuffney, E. M. Hill, T. Z. Kosc, J. H. Kelly, and J. D. Zuegel, presented at CLEO 2016, San Jose, CA, 5–10 June 2016.

"Record Fifth-Harmoni–Generation Efficiency Producing 211-nm Pulses Using Cesium Lithium Borate," I. A. Begishev, J. Bromage, P. S. Datte, S. T. Yang, and J. D. Zuegel, presented at CLEO 2016, San Jose, CA, 5–10 June 2016.

"Single-Shot, High-Resolution Fiber-Based Phase-Diversity Photodetection of Optical Pulses," C. Dorrer, L. J. Waxer, A. Kalb, E. M. Hill, and J. Bromage, presented at CLEO 2016, San Jose, CA, 5–10 June 2016.

"Slide-Free (But Not Necessarily Stain-Free) Microscopy via Ultraviolet Excitation," S. G. Demos, R. Levenson, F. Fereidouni, and Z. Harmany, presented at CLEO 2016, San Jose, CA, 5–10 June 2016.

"Calibration of a Time-Resolved Hard X-Ray Detector Using Radioactive Sources," C. Stoeckl, W. Theobald, S. P. Regan, and M. H. Romanofsky, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"Conceptual Design of a Single-Line-of-Sight Time-Resolved X-Ray Imager on OMEGA," W. Theobald, C. Sorce, M. Bedzyk, F. J. Marshall, C. Stoeckl, S. P. Regan, T. Hilsabeck, J. D. Kilkenny, D. Morris, M. Chung, J. Hares, T. Dymoke-Bradshaw, P. Bell, J. Celeste, A. Carpenter, M. Dayton, D. K. Bradley, M. C. Jackson, L. Pickworth, S.

Nagel, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, and Q. Looker, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"Demonstration of Imaging X-Ray Thomson Scattering on OMEGA EP," P. X. Belancourt, W. Theobald, P. A. Keiter, T. J. B. Collins, M. J. Bonino, P. Kozlowski, S. P. Regan, and R. P. Drake, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"Design of an Extreme Ultraviolet Spectrometer Suite for Characterization of Rapidly Heated Solid Matter," S. T. Ivancic, D. Nelson, P. M. Nilson, C. R. Stillman, C. Mileham, I. A. Begishev, and D. H. Froula, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"High-Dynamic-Range Neutron Time-of-Flight Detector Used to Infer the D(t,n)$^4$He and D(d,n)$^3$He Reaction Yield and Ion Temperature on OMEGA," C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, M. H. Romanofsky, T. C. Sangster, M. J. Shoup III, and C. Stoeckl, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"High-Resolving-Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, R. K. Jungquist, C. Taylor, C. R. Stillman, S. T. Ivancic, R. Boni, J. Hassett, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, C. Stoeckl, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016 (invited).

"A Neutron Temporal Diagnostic for High-Yield DT Cryogenic Implosions on OMEGA," C. Sorce, C. Stoeckl, J. Katz, R. Boni, F. Ehrne, C. J. Forrest, V. Yu. Glebov, D. J. Lonobile, S. P. Regan, M. J. Shoup III, A. Sorce, T. C. Sangster, D. Weiner, and J. Magoon, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"A New Microchannel-Plate Neutron Time-of-Flight Detector," V. Yu. Glebov, R. Flight, C. J. Forrest, J. P. Knauer, S. P. Regan, M. H. Romanofsky, T. C. Sangster, and C. Stoeckl, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"Plasma Characterization Using Ultraviolet Thomson Scattering from Ion-Acoustic and Electron Plasma Waves," R. K. Follett, J. A. Delettrez, R. J. Henchen, J. Katz, D. H. Edgell, J. F. Myatt, and D. H. Froula, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016 (invited).

"A Pulse-Front-Tilt–Compensated Streaked Optical Spectrometer with High Throughput and Picosecond Time Resolution," J. Katz, R. Boni, A. Maltsev, C. Muir, M. H.

Romanofsky, and D. H. Froula, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"A Streaked X-Ray Spectroscopy Platform for Rapidly Heated, Near-Solid Density Plasmas," C. R. Stillman, P. M. Nilson, S. Ivancic, C. Mileham, I. A. Begishev, R. K. Junquist, and D. H. Froula, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"Three-Axis Neutron Time-of-Flight Measurement," J. P. Knauer, C. J. Forrest, V. Yu. Glebov, T. C. Sangster, and C. Stoeckl, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"X-Ray Self-Emission Imaging Used to Diagnose 3-D Nonuniformities in Direct-Drive ICF Implosions," A. K. Davis, D. T. Michel, R. S. Craxton, R. Epstein, M. Hohenberger, T. Mo, and D. H. Froula, presented at the 21st Topical Conference on High-Temperature Plasma Diagnostics, Madison, WI, 5–9 June 2016.

"Terahertz Spectroscopy of Graphene-Polymer Nanocomposites," G. Chen, A. Koroliov, R. Sherstha, and R. Sobolewski, presented at Frontiers in Materials Science for the 21st Century, Rochester, NY, 16 May 2016.

"Analysis of Chemical-Vapor–Deposition Diamonds for Neutron Detection on OMEGA," I. Seth and J. P. Knauer, presented at the Intel International Science and Engineering Fair, Phoenix, AZ, 8–13 May 2016.

"Conduction-Zone Measurements Using X-Ray Self-Emission Images," A. K. Davis, D. T. Michel, S. X. Hu, R. Epstein, J. P. Knauer, and D. H. Froula, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Density Modulation–Induced Absolute Laser–Plasma Instabilities: Simulations and Theory," J. Li, R. Yan, and C. Ren, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"The Effect of Cross-Beam Energy Transfer on Two-Plasmon Decay in Direct-Drive Implosions," D. H. Froula, R. K. Follett, R. J. Henchen, V. N. Goncharov, A. A. Solodov, J. A. Delettrez, D. H. Edgell, B. Yaakobi, C. Stoeckl, and J. F. Myatt, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Full-Pulse Particle-in-Cell Simulations of Hot-Electron Generation in OMEGA Experiments," E. Borwick, S. X. Hu, J. Li, R. Yan, and C. Ren, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Heat-Flux Measurements from Collective Thomson-Scattering Spectra," R. J. Henchen, S. X. Hu, W. Rozmus, J. Katz, and D. H. Froula, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"The Influence of Smoothing by Spectral Dispersion on Cross-Beam Energy Transfer," W. Seka, J. F. Myatt, V. N. Goncharov, R. Betti, S. P. Regan, A. V. Maximov, J. A. Delettrez, R. E. Bahr, A. A. Solodov, M. J. Rosenberg, A. Bose, and R. W. Short, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Kinetic Analysis of Convective Stimulated Raman Scattering and its Potential as a Temperature Diagnostic," R. W. Short, W. Seka, and J. F. Myatt, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Measurements of the Effect of Adiabat on the Shell Thickness of Direct-Drive Implosions on OMEGA," D. T. Michel, S. X. Hu, A. K. Davis, V. Yu. Glebov, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, C. Stoeckl, and D. H. Froula, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Modeling of Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, J. F. Myatt, R. Epstein, S. P. Regan, W. Seka, J. G. Shaw, M. Hohenberger, J. W. Bates, P. A. Michel, J. D. Moody, J. E. Ralph, D. P. Turnbull, and M. A. Barrios, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"The National Ignition Facility: An Unexpected Journey, Lessons to be Learned to Secure Projects of Scale, and Persepctives on the Future of Inertial Confinement Fusion Research," E. M. Campbell, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"An Overview of Laser-Driven Magnetized Linear Inertial Fusion on OMEGA," J. R. Davies, D. H. Barnak, R. Betti, P.-Y. Chang, K. J. Peterson, A. B. Sefkow, D. B. Sinars, and S. A. Slutz, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. Epstein, J. F. Myatt, S. P. Regan, M. Hohenberger, T. J. B. Collins, P. A. Michel, D. P. Turnbull, C. Goyon, J. D. Moody, J. E. Ralph, M. A. Barrios, and J. W. Bates, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Polarization Dependence of Cross-Beam Energy Transfer in Unabsorbed Light Beamlets," D. H. Edgell, R. K. Follett, J. Katz, J. F. Myatt, W. Seka, and D. H. Froula, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Scaling Laser-Driven Magnetized Liner Inertial Fusion to the National Ignition Facility," D. H. Barnak, R. Betti, E. M. Campbell, P.-Y. Chang, J. R. Davies, G. Fiksel, J. P. Knauer, S. P. Regan, A. Harvey-Thompson, K. J. Peterson, A. B. Sefkow, D. B.

Sinars, and S. A. Slutz, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Shock-Wave Acceleration of Ions on OMEGA EP," D. Haberberger, D. H. Froula, A. Pak, A. Link, P. K. Patel, F. Fiuza, S. Ya. Tochitsky, and C. Joshi, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Simulation of Stimulated Brillouin Scattering and Stimulated Raman Scattering in Shock Ignition," C. Ren, J. Li, W.-D. Liu, and R. Yan, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Thomson Scattering from Nonlinear Electron Plasma Waves," A. Davies, J. Katz, S. Bucht, D. Haberberger, J. Bromage, J. D. Zuegel, D. H. Froula, J. Sadler, P. A. Norreys, R. Bingham, R. Trines, and L. O. Silva, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Transforming the Idler for Use in Laser–Plasma Interaction Experiments," S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"A Wave-Based Model for Cross-Beam Energy Transfer in Inhomogeneous Plasmas," J. F. Myatt, J. G. Shaw, R. K. Follett, D. H. Edgell, V. N. Goncharov, A. V. Maximov, R. W. Short, W. Seka, and D. H. Froula, presented at the 46th Annual Anomalous Absorption Conference, Old Saybrook, CT, 1–6 May 2016.

"Using Lab-on-Chip Technology to Mass Produce Inertial Fusion Energy Targets," N. D. Viza, M. Wang, M. H. Romanofsky, and D. R. Harding, presented at Exploring Alternative Energy: $CO_2$ as a Resource, Rochester, NY, 29 April 2016.

"Analysis of Chemical Vapor Deposition Diamonds for Neutron Detection on OMEGA," I. Seth and J. P. Knauer, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Characterizing Debris-Shield Transmission Degradation and Estimating On-Target Energy," J. Kwiatkowski, S. J. Stagnitto, S. F. B. Morse, M. Labuzeta, and V. Guiliano, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Direct Drive 2020," T. C. Sangster, K. S. Anderson, R. Betti, T. R. Boehly, B. Boni, M. J. Bonino, E. M. Campbell, D. Canning, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, W. R. Donaldson, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, H. Huang, I. V. Igumenshchev, R. T. Janezic, D. W. Jacobs-Perkins, J. Katz, R. L. Keck, J. H. Kelly, T. J. Kessler, B. E. Krushwitz, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. T. Michel, S. F. B. Morse, J. F. Myatt, P. M. Nilson, J. C. Puth, P. B. Radha, B. S. Rice, M. J. Rosenberg, W. Seka,

W. T. Shmayda, R. W. Short, A. Shvydky, M. J. Shoup III, S. Skupsky, A. A. Solodov, C. Sorce, S. Stagnito, C. Stoeckl, W. Theobald, J. Ulreich, M. D. Wittman, B. Yaakobi, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, H. Sio, B. Lahmann, M. A. Barrios, P. Bell, D. K. Bradley, D. A. Callahan, A. Carpenter, D. T. Casey, J. Celeste, M. Dayton, S. N. Dixit, C. Goyon, O. A. Hurricane, S. Le Pape, L. Masse, P. Michel, J. D. Moody, S. R. Nagel, A. Nikroo, R. Nora, L. Pickworth, J. E. Ralph, H. G. Rinderknecht, R. P. J. Town, D. P. Turnbull, R. J. Wallace, P. J. Wegner, M. Farrell, A. Greenwood, T. Hilsabeck, J. D. Kilkenny, N. Rice, M. Schoff, N. Petta, J. Hund, S. P. Obenschain, J. W. Bates, M. Karasik, A. J. Schmitt, J. Weaver, M. J. Schmitt, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, O. Looker, J. Hares, and T. Dymoke-Bradshaw, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Enhanced Gas-Filled Capabilities for Ten-Inch–Manipulator–Based Target Positioners," D. Mastrosimone, A. Agliata, T. Buczek, D. J. Lonobile, M. J. Shoup III, and C. Sorce, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"External User Access Through the LLE Principal Investigator Portal," R. W. Kidder, A. Zeller, T. Meyer, P. Stoeckl, R. Pasols, and R. Holderried, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Fielding MIFEDS on OMEGA," D. Mastrosimone, G. Fiksel, J. Magoon, A. Agliata, P.-Y. Chang, and D. H. Barnak, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"High-Resolving Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP," P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, R. K. Jungquist, C. Taylor, R. Boni, J. Hassett, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, C. Stoeckl, and D. H. Froula, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"OMEGA EP Pointing, Focusing, and Timing," J. Kwiatkowski, E. M. Hill, B. Ehrich, M. Heimbueger, F. J. Marshall, and B. E. Kruschwitz, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"OMEGA EP Short-Pulse Ratiometer," J. Kwiatkowski, M. Barczys, M. Bedzyk, A. Kalb, B. E. Kruschwitz, C. McMahon, T. Nguyen, A. L. Rigatti, and M. Sacchitella, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"OMEGA EP UV Prediction Model for Enhanced Operational Performance," M. J. Guardalben, M. Spilatro, L. J. Waxer, and M. Barczys, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Omega Facility OLUG 2016 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Omega Laser Facility and Diagnostic Timing Management," E. M. Hill and J. C. Puth, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"OMEGA SSD Arbitrary Waveform Generation Installation and Activation," E. M. Hill, G. Balonek, R. Cuffney, J. H. Kelly, and T. Z. Kosc, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Optical Diagnostic Suite (Schlieren, Interferometry, and Angular Filter Refractometry) on OMEGA EP Using a 10-ps 263-nm Probe Beam," S. Ivancic, D. Haberberger, P. Angland, M. Barczys, M. Bedzyk, R. Boni, R. Brown, R. S. Craxton, A. Davies, F. Ehrne, R. K. Jungquist, J. C. Puth, R. G. Roides, W. Seka, M. J. Shoup III, C. Stoeckl, W. Theobald, D. Weiner, and D. H. Froula, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"An Overview of Laser-Driven Magnetized Liner Inertial Fusion on OMEGA," J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, P.-Y. Chang, G. Fiksel, J. P. Knauer, S. P. Regan, A. Harvey-Thompson, K. J. Peterson, A. B. Sefkow, D. B. Sinars, and S. A. Slutz, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"The Principal Investigator Portal Provides a Gateway to Shot Information for External Users," R. W. Kidder, A. Zeller, M. Charissis, P. Stoeckl, J. J. Rung, and R. Holderried, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Qualifying as an External Instrument Specialist/Technician at LLE," S. Stagnitto, M. Labuzeta, and C. Sorce, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Radiation Reaction of Electrons at Laser Intensities up to $10^{25}$ W/cm$^2$," X. K. Zhou and S. X. Hu, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Short-Pulse Stray Light Management," R. Jungquist, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Target Diagnostic Timing Manager," W. J. Armstrong, J. C. Puth, and R. Rombaut, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2016.

"Demonstraton of 50-Gbar Hot-Spot Pressure and Reduction of Cross-Beam Energy Transfer for Direct-Drive, Layered Deuterium–Tritium Implosions on OMEGA," S. P. Regan, V. N. Goncharov, T.C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, J. F. Myatt, P. B. Radha, M. J. Rosenberg, W. Seka, W. T. Shmayda, A. Shvydky, S. Skupsky, A. A. Solodov, C. Stoeckl, W. Theobald, M. D. Wittman, B. Yaakobi, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, S. P. Obenschain, M. Karasik, A. J. Schmitt, D. D. Meyerhofer, and M. J. Schmitt, presented at the 12th Direct Drive & Fast Ignition Workshop, Talence, France, 25–27 April 2016.

"Direct Drive at the National Ignition Facility," P. B. Radha, presented at the 12th Direct Drive & Fast Ignition Workshop, Talence, France, 25–27 April 2016.

"Fusion-Yield Extrapolation to Higher Laser Energies for Direct-Drive Inertial Fusion Including the Effect of Alpha Heating," R. Betti, A. Bose, K. M. Woo, E. M. Campbell, A. R. Christopherson, R. L. McCrory, and R. Nora, to be presented at the 12th Direct Drive & Fast Ignition Workshop, Talence, France, 25–27 April 2016.

"Gigabar Shocks for Direct-Drive Shock-Ignition Fusion," W. Theobald, R. Betti, W. Seka, A. Bose, K. S. Anderson, M. Hohenberger, F. J. Marshall, D. T. Michel, A. Shvydky, A. A. Solodov, C. Stoeckl, D. H. Edgell, B. Yaakobi, R. Nora, A. Casner, M. Lafon, C. Reverdin, X. Ribeyre, E. Llor-aisa, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei, presented at the 12th Direct Drive & Fast Ignition Workshop, Talence, France, 25–27 April 2016.

"Status of Direct-Drive Research in the U.S.," V. N. Goncharov, S. P. Regan, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, W. T. Shmayda, A. Shvydky, S. Skupsky, C. Stoeckl, W. Theobald, F. Weilacher, B. Yaakobi, D. D. Meyerhofer, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, S. P. Obenschain, and M. Karasik, at the 12th Direct Drive & Fast Ignition Workshop, Talence, France, 25–27 April 2016.

"Three-Dimensional Modeling of Direct-Drive Cryogenic Implosions on OMEGA," I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, J. P. Knauer, E. M. Campbell, C. J. Forrest, D. H. Froula, V. Yu. Glebov, R. L. McCrory, T. C. Sangster, S. Skupsky, and C. Stoeckl, presented at the 12th Direct Drive & Fast Ignition Workshop, Talence, France, 25–27 April 2016.

"The Impact of Hydrophobicity of Stainless-Steel Surfaces on Tritium Inventories," C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at the 11th International Conference on Tritium Science and Technology, Charleston, SC, 17–22 April 2016.

"Influence of Surface Modifications on the Adsorption and Absorption of Tritium into 316 Stainless Steel," M. Sharpe, C. Fagan, W. T. Shmayda, and W. U. Schröder, presented at the 11th International Conference on Tritium Science and Technology, Charleston, SC, 17–22 April 2016.

"Isotope Separation System at the University of Rochester's Laboratory for Laser Energetics," M. D. Wittman, W. T. Shmayda, J. L. Reid, N. Redden, R. F. Earley, J. Magoon, K. Heung, S. Xiao, T. Sessions, and S. Redd, presented at the 11th International Conference on Tritium Science and Technology, Charleston, SC, 17–22 April 2016.

"Tritium Activities at the University of Rochester's Laboratory for Laser Energetics," W. T. Shmayda, M. D. Wittman, J. L. Reid, and R. F. Earley, 11th International Conference on Tritium Science and Technology, Charleston, SC, 17–22 April 2016.

"Ion Kinetic Effects in Exploding-Pusher Implosions on OMEGA and the National Ignition Facility," M. J. Rosenberg, V. Yu. Glebov, C. Stoeckl, W. Seka, F. J. Marshall, J. A. Delettrez, P. W. McKenty, M. Hohenberger, R. Betti, V. N. Goncharov, P. B. Radha, J. P. Knauer, T. C. Sangster, H. G. Rinderknecht, F. H. Séguin, A. B. Zylstra, J. A. Frenje, H. Sio, M. Gatu Johnson, C. K. Li, R. D. Petrasso, N. M. Hoffman, G. Kagan, H. W. Herrmann, R. E. Olson, P. A. Amendt, S. Le Pape, T. Ma, A. J. Mackinnon, J. R. Rygg, S. C. Wilks, L. Berzak Hopkins, D. T. Casey, O. L. Landen, J. D. Lindl, J. Pino, H. F. Robey, S. Atzeni, O. Larroche, and A. Nikroo, presented at the ICF Kinetic Physics Workshop, Livermore, CA, 5–7 April 2016.

"The Most Unsolved Problem in Plasma Physics: Demonstrating a Burning Plasma in the Laboratory," R. Betti, A. R. Christopherson, A. Bose, K. M. Woo, J. Howard, K. S. Anderson, E. M. Campbell, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, W. Theobald, M. J. Edwards, R. Nora, B. K. Spears, and J. Sanz, presented at Solved and Unsolved Problems in Plasma Physics, Princeton, NJ, 28–30 March 2016 (invited).

"Controlling the Optical Pulse Spectrum with an Electro-Optic Phase Modulator," B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, presented at Industrial Associates, Rochester, NY, 21–22 March 2016.

"High-Contrast, Closed-Loop Control of Continuous-Wave Laser Beam Profiles," L. E. McIntire, M. Divoky, W. H. Knox, S.-W. Bahk, and J. D. Zuegel, presented at Industrial Associates, Rochester, NY, 21–22 March 2016.

"Temporal Waveguiding Caused by Time Reflection and Refraction," B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, presented at Industrial Associates, Rochester, NY, 21–22 March 2016.

"Technology Development and Prospects for 100-PW-Class Optical Parametric Chirped-Pulse Amplification Pumped by OMEGA EP," J. D. Zuegel, A. Agliata, S.-W. Bahk, I. A. Begishev, W. A. Bittle, T. Buczek, J. Bunkenburg, D. Canning, A. Consentino, D. Coppenbarger, R. Cuffney, C. Dorrer, J. Fini, D. H. Froula, G. Gates, M. J. Guardalben, D. Haberberger, S. Hadrich, C. Hall, H. Huang, R. K. Jungquist, C. Kellogg, T. J. Kessler, G. Kick, E. Kowaluk, B. E. Kruschwitz, T. Lewis, J. Magoon, J. Marciante, D. D. Meyerhofer, C. Mileham, M. Millecchia, S. F. B. Morse, P. M. Nilson, A. Okishev, J. B. Oliver, R. G. Peck, C. Rees, B. S. Rice, E. Riedle, A. L. Rigatti, C. Robillard, R. G. Roides, M. H. Romanofsky, J. Rothhardt, M. J. Shoup III, C. Smith, C. Stoeckl, R. Taylor, L. J. Waxer, and D. Weiner, presented at The 2nd International Symposium on High Power Laser Science and Engineering, Suzhou, China, 15–18 March 2016.

"Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. Epstein, J. F. Myatt, S. P. Regan, M. Hohenberger, T. J. B. Collins, P. Michel, D. P. Turnbull, J. D. Moody, J. E. Ralph, M. A. Barrios, and J. W. Bates, presented at the NIF User Group Meeting, Livermore, CA, 1–3 February 2016.

## 2015

"Perspectives on Inertial Fusion Energy," R. L. McCrory, presented at the Fusion Power Associates, Washington, DC, 16–17 December 2015.

"Ultrahigh Brightness Laser Development at the Laboratory for Laser Energetics," E. M. Campbell, D. Haberberger, A. Davies, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, J. Sadler, and P. A. Norreys, presented at George Washington University, Washington, DC, 14 December 2015.

"Electric-Field–Assisted Motion of Low-Surface-Energy Fluid Droplets on Dielectric Surfaces," D. R. Harding, B. Chock, W. Wang, Z. Bei, and T. B. Jones, presented at the 2015 MRS Fall Meeting, Boston, MA, 29 November–4 December 2015.

"A 3-D Model of Hot-Spot Formation in Inertial Confinement Fusion Implosions," X. Gong, V. N. Goncharov, and I. V. Igumenshchev, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Absolute Two-Plasmon Decay and Stimulated Raman Scattering in Direct-Drive Irradiation Geometries," R. W. Short, A. V. Maximov, J. F. Myatt, W. Seka, and J. Zhang, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Alpha Heating and Burning Plasmas in Inertial Confinement Fusion," A. R. Christopherson, A. Bose, K. M. Woo, J. Howard, K. S. Anderson, E. M. Campbell, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, W. Theobald, M. J. Edwards, R. Nora, B. K. Spears, J. Sanz, O. A. Hurricane, J. D. Lindl, P. K. Patel, and D. Shvarts, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015 (invited).

"Angularly Resolved Mass Ablation Rate and Ablation-Front-Trajectory Measurements at the Omega Laser and National Ignition Facilities," A. K. Davis, D. Cao, D. T. Michel, D. H. Edgell, R. Epstein, V. N. Goncharov, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, J. A. Marozas, A. V. Maximov, J. F. Myatt, P. B. Radha, S. P. Regan, T. C. Sangster, J. G. Shaw, D. H. Froula, M. Lafon, J. D. Moody, and R. J. Wallace, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015 (invited).

"Application and Analysis of the Isoelectronic Line Ratio Temperature Diagnostic in a Planar Ablating-Plasma Experiment at the National Ignition Facility," R. Epstein, M. J. Rosenberg, A. A. Solodov, J. F. Myatt, S. P. Regan, W. Seka, M. Hohenberger, M. A. Barrios, and J. D. Moody, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Beam Energy Exchange Driven by Incoherent Laser Beams with Frequency Detuning," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, and W. Seka, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Beam-Pointing Designs for Exploding-Pusher Proton and X-Ray Backlighting Targets at the National Ignition Facility," R. S. Craxton, Y. Z. Kong, E. M. Garcia, P. Huang, J. Kinney, P. W. McKenty, R. Zhang, S. Le Pape, F. Coppari, R. F. Heeter, B. J. MacGowan, J. R. Rygg, and M. B. Schneider, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Characterizing Hot-Spot Dynamics of Direct-Drive Cryogenic Implosions on OMEGA," K. S. Anderson, P. W. McKenty, A. Shvydky, J. P. Knauer, T. J. B. Collins, J. A. Delettrez, D. Keller, and M. M. Marinak, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Characterizing ICF Neutron Scintillation Diagnostics on the nTOF Line at SUNY Geneseo," P. Lawson-Keister, J. Padawar-Curry, H. Visca, K. Fletcher, S. J. Padalino, T. C. Sangster, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Cross-Beam Energy Transfer Mitigation in Cryogenic Implosions on OMEGA," V. N. Goncharov, S. P. Regan, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall,

R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, W. T. Shmayda, A. Shvydky, S. Skupsky, C. Stoeckl, W. Theobald, F. Weilacher, B. Yaakobi, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, S. P. Obenschain, and M. Karasik, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Design of an Extreme Ultraviolet Spectrometer Suite for Isochoric-Heated Warm-Dense-Matter Studies," S. Ivancic, P. M. Nilson, C. R. Stillman, C. Mileham, and D. H. Froula, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Design Options for Polar-Direct-Drive Targets: From Alpha Heating to Ignition," T. J. B. Collins, J. A. Marozas, S. Skupsky, D. Cao, P. W. McKenty, J. A. Delettrez, and G. Moses, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Diagnosing Cross-Beam Energy Transfer Using Beamlets of Unabsorbed Light from Direct-Drive Implosions," D. H. Edgell, R. K. Follett, V. N. Goncharov, I. V. Igumenshchev, J. Katz, J. F. Myatt, W. Seka, and D. H. Froula, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Direct Drive: Simulations and Experiments at the National Ignition Facility," P. B. Radha, M. Hohenberger, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, D. H. Froula, V. N. Goncharov, S. X. Hu, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. Seka, A. Shvydky, S. Skupsky, J. A. Frenje, R. D. Petrasso, H. Sio, A. B. Zylstra, S. N. Dixit, S. Le Pape, J. W. Bates, M. Karasik, and S. P. Obenschein, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015 (invited).

"Effects of Laser–Plasma Instabilities on Hydro Evolution in Direct-Drive Inertial Confinement Fusion," J. Li, S. X. Hu, and C. Ren, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Effects of Long- and Intermediate-Wavelength Asymmetries on Hot-Spot Energetics," A. Bose, R. Betti, K. M. Woo, A. R. Christopherson, and D. Shvarts, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Efficiency Calibration for Measuring the $^{12}C(n,2n)^{11}C$ Cross-Section," T. Eckert, A. Gula, L. Vincett, M. Yuly, S. J. Padalino, M. Russ, A. Simone, D. Ellison, M. Bienstck, H. Desmitt, T. C. Sangster, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Energy Coupling and Hot-Spot Pressure in Direct-Drive Layered DT Implosions on OMEGA," S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A.

Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, J. F. Myatt, P. B. Radha, M. J. Rosenberg, W. Seka, W. T. Shmayda, A. Shvydky, S. Skupsky, A. A. Solodov, C. Stoeckl, W. Theobald, M. D. Wittman, B. Yaakobi, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, S. P. Obenschain, M. Karasik, A. J. Schmitt, D. D. Meyerhofer, and M. J. Schmitt, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015 (invited).

"Enhancement of Particle Track Etch Rate in CR-39 by UV Exposure," M. P. Wiesner, R. Ume, J. G. McLean, T. C. Sangster, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Equation-of-State Measurements of Resorcinol Formaldehyde Foam Using Imaging X-Ray Thomson Spectrometer," P. X. Belancourt, P. A. Keiter, R. P. Drake, W. Theobald, T. J. B. Collins, M. J. Bonino, and P. Kozlowski, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Evaluation of Wavelength Detuning to Mitigate Cross-Beam Energy Transfer Using the Nike Laser," P. W. McKenty, J. A. Marozas, F. J. Marshall, J. Weaver, S. P. Obenschain, and A. J. Schmitt, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"First-Principles Investigations on Thermal Conductivity and Average Ionization of CH Ablators Under Extreme Conditions," S. X. Hu, L. A. Collins, J. D. Kress, V. N. Goncharov, T. R. Boehly, R. L. McCrory, and S. Skupsky, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"First Results from Laser-Driven MagLIF Experiments on OMEGA: Backscatter and Transmission Measurements of Laser Preheating," J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, P.-Y. Chang, G. Fiksel, W. Seka, K. J. Peterson, A. B. Sefkow, D. B. Sinars, and S. A. Slutz, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"First Results from Laser-Driven MagLIF Experiments on OMEGA: Optimization of Illumination Uniformity," P.-Y. Chang, D. H. Barnak, R. Betti, E. M. Campbell, J. R. Davies, J. P. Knauer, K. J. Peterson, A. B. Sefkow, D. B. Sinars, S. A. Slutz, and G. Fiksel, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"First Results from Laser-Driven MagLIF Experiments on OMEGA: Time Evolution of Laser Gas Heating Using Soft X-Ray Diagnostics," D. H. Barnak, R. Betti, P.-Y. Chang, and J. R. Davies, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Framed X-Ray Imaging of Cryogenic Target Implosion Cores on OMEGA," F. J. Marshall, V. N. Goncharov, V. Yu. Glebov, S. P. Regan, T. C. Sangster, and C. Stoeckl, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Heat-Flux Measurements from Collective Thomson-Scattering Spectra," R. J. Henchen, S. X. Hu, R. K. Follett, J. Katz, V. N. Goncharov, D. H. Froula, and W. Rozmus, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Hot-Electron Generation in Various Ablator Materials at Shock-Ignition–Relevant Laser Intensities," W. Theobald, R. Betti, W. Seka, A. Bose, D. T. Michel, C. Stoeckl, R. Yan, R. Nora, A. Casner, M. Lafon, X. Ribeyre, E. Llor-aisa, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Hydrodynamic Instability Growth in Polar-Direct-Drive Implosions at the National Ignition Facility," M. Hohenberger, A. Shvydky, P. B. Radha, M. J. Rosenberg, V. N. Goncharov, S. Le Pape, F. J. Marshall, D. T. Michel, J. P. Knauer, S. P. Regan, T. C. Sangster, S. R. Nagel, A. Nikroo, V. A. Smalyuk, and R. J. Wallace, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Improved Wavelength Detuning Cross-Beam Energy Transfer Mitigation Strategy for Polar Direct Drive at the National Ignition Facility," J. A. Marozas, T. J. B. Collins, P. W. McKenty, and J. D. Zuegel, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Measurements of the Conduction-Zone Length and Mass Ablation Rate in Cryogenic Direct-Drive Implosions on OMEGA to Restrict Thermal-Transport Models," D. T. Michel, T. C. Sangster, V. N. Goncharov, A. K. Davis, I. V. Igumenshchev, R. Epstein, V. Yu. Glebov, S. X. Hu, D. D. Meyerhofer, S. P. Regan, W. Seka, A. Shvydky, C. Stoeckl, and D. H. Froula, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Measurements of Sound Velocity and Grüneisen Parameter in CH and MgO Shocked to Tpa Pressures," C. A. McCoy, M. C. Gregor, D. N. Polsin, T. R. Boehly, D. E. Fratanduono, P. M. Celliers, G. W. Collins, and D. D. Meyerhofer, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Mitigation of Two-Plasmon Decay in Direct-Drive Implosions Using Multilayer Targets," D. H. Froula, R. K. Follett, R. J. Henchen, V. N. Goncharov, D. T. Michel, A. A. Solodov, J. A. Delettrez, D. H. Edgell, B. Yaakobi, C. Stoeckl, and J. F. Myatt, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Modeling Hot-Electron Measurements in Multibeam Two-Plasmon–Decay Experiments," R. K. Follett, J. G. Shaw, D. H. Edgell, R. J. Henchen, S. X. Hu, J. Katz, D. T. Michel, J. F. Myatt, A. A. Solodov, C. Stoeckl, B. Yaakobi, and D. H. Froula, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Modeling of Two-Plasmon–Decay Experiments at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, J. F. Myatt, R. Epstein, S. P. Regan, W. Seka, J. G. Shaw, M. Hohenberger, J. W. Bates, J. E. Moody, J. E. Ralph, D. P. Turnbull, and M. A. Barrios, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Neutron Induced Deuterium Breakup in Inertial Confinement Fusion at the Omega Laser Facility," C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, W. U. Schroeder, J. A. Frenje, M. Gatu Johnson, M. W. Paris, G. Hale, and A. B. Zylstra, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Neutron Yield and Ion Temperature from DD and DT Fusion in National Ignition Facility High-Foot Implosions," J. P. Knauer, M. Gatu Johnson, R. M. Bionta, E. J. Bond, D. K. Bradley, J. A. Caggiano, D. A. Callahan, D. T. Casey, C. J. Cerjan, T. Doeppner, M. J. Eckart, M. J. Edwards, J. A. Frenje, V. Yu. Glebov, G. P. Grim, E. P. Hartouni, R. Hatarik, D. E. Hinkel, O. A. Hurricane, W. W. Hsing, J. D. Kilkenny, A. Kritcher, O. L. Landen, S. Le Pape, T. Ma, A. J. Mackinnon, D. H. Munro, H.-S. Park, P. K. Patel, R. D. Petrasso, J. E. Ralph, B. A. Remington, T. C. Sangster, D. B. Sayre, B. K. Spears, and C. B. Yeamans, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"A New Immediate Far-Field Spot Design for Polar Direct Drive at the National Ignition Facility," D. Cao, J. A. Marozas, T. J. B. Collins, P. B. Radha, and P. W. McKenty, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"A New Neutron Time-of-Flight Detector for DT Yield and Ion-Temperature Measurements on OMEGA," V. Yu. Glebov, C. J. Forrest, J. P. Knauer, S. P. Regan, T. C. Sangster, and C. Stoeckl, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"A Numerical Model for Two-Plasmon–Decay Hot-Electron Production and Mitigation in Direct-Drive Implosions," J. F. Myatt, J. G. Shaw, V. N. Goncharov, J. Zhang, A. V. Maximov, R. W. Short, R. K. Follett, W. Seka, D. H. Edgell, D. H. Froula, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Numerical Simulations of Hydrodynamic Instability Growth and Imprint Experiments at the National Ignition Facility," A. Shvydky, M. Hohenberger, P. B. Radha, M. J.

Rosenberg, R. S. Craxton, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, S. P. Regan, and T. C. Sangster, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Numerical Study of Large-Scale, Laser-Induced Nonuniformities in Cryogenic OMEGA Implosions," I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, K. Silverstein, J. P. Knauer, D. H. Froula, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Planar Two-Plasmon–Decay Experiments at Polar-Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. Epstein, J. F. Myatt, S. P. Regan, M. Hohenberger, T. J. B. Collins, D. P. Turnbull, P. Michel, J. D. Moody, J. E. Ralph, and M. A. Barrios, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Polar-Direct-Drive Shock-Timing Measurements at the National Ignition Facility," T. R. Boehly, M. J. Rosenberg, M. Hohenberger, D. N. Polsin, P. B. Radha, A. Shvydky, V. N. Goncharov, D. R. Harding, S. P. Regan, T. C. Sangster, P. M. Celliers, D. E. Fratanduono, and S. N. Dixit, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Probing the Release of Shocked Material," D. N. Polsin, T. R. Boehly, S. Ivancic, M. C. Gregor, C. A. McCoy, D. E. Fratanduono, P. M. Celliers, and D. D. Meyerhofer, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Radiochromic Film Sensitivity Calibrations Using Ion Beams from a Palletron Accelerator," T. M. Filkins, J. A. Steidle, R. Ward, C. Freeman, T. C. Sangster, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Recent Advances in the Transport Modeling of Two-Plasmon–Decay Electrons in the 1-D Hydrodynamic Code *LILAC*," J. A. Delettrez, B. Yaakobi, J. F. Myatt, and D. H. Edgell, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"The Release Behavior of Diamond Shocked to 25 Mbar," M. C. Gregor, T. R. Boehly, C. A. McCoy, D. N. Polsin, D. D. Meyerhofer, D. E. Fratanduono, P. M. Celliers, and G. W. Collins, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Self-Consistent Calculation of Half-Harmonic Emission Generated by the Two-Plasmon–Decay Instability," J. Zhang, J. F. Myatt, R. W. Short, A. V. Maximov, H. X. Vu, D. F. DuBois, and D. A. Russell, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Shock-Wave Acceleration of Ions on OMEGA EP," D. Haberberger, D. H. Froula, S. X. Hu, C. Joshi, S. Tochitsky, C. Gong, F. Fiuza, and L. Silva, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Spectroscopy of Neutrons Generated Through Nuclear Reactions in Short-Pulse Laser Experiments," C. Stoeckl, C. J. Forrest, V. Yu. Glebov, T. C. Sangster, W. U. Schröder, and E. Henry, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Stimulated Raman Scattering as Coronal $T_e$ Diagnostic for Direct-Drive Experiments on the Current National Ignition Facility," W. Seka, S. P. Regan, P. B. Radha, M. J. Rosenberg, M. Hohenberger, V. N. Goncharov, J. F. Myatt, J. E. Ralph, J. D. Moody, and D. P. Turnbull, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Supersonic Propagation of a K-Shell Ionization Front in Metal Targets," P. M. Nilson, G. Fiksel, C. Stoeckl, P. A. Jannimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D.D. Meyerhofer, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Target Chamber Manipulator," A. Tantillo, M. C. Watson, E. Pogozelski, T. C. Sangster, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Three-Dimensional Modeling of Laser–Plasma Interactions Near the Quarter-Critical Density in Plasmas," H. Wen, A. V. Maximov, R. Yan, C. Ren, J. Li, and J. F. Myatt, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Three-Dimensional Simulations of the Deceleration Phase of Inertial Fusion Implosions Using DEC3D," K. M. Woo, R. Betti, A. Bose, R. Epstein, J. A. Delettrez, K. S. Anderson, R. Yan, P.-Y. Chang, D. Jonathan, and M. Charissis, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Three-Dimensional Single-Mode Nonlinear Ablative Rayleigh–Taylor Instability," R. Yan, R. Betti, J. Sanz, B. Liu, and A. Frank, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Time-Resolved Tandem Faraday Cup Development for High-Energy TNSA Particles," S. J. Padalino, A. Simone, E. Turner, M. K. Ginnane, M. Glisic, B. Kousar, A. Smith, T. C. Sangster, and S. P. Regan, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"A Tunable (1100-nm to 1500-nm) 50-mJ Laser Enables a Pump-Depleting Plasma-Wave Amplifier," A. Davies, S. Bucht, J. Katz, D. Haberberger, J. Bromage, J. D. Zuegel, D. H.

Froula, P. A. Norreys, R. Bingham, J. Saldler, R. Trines, and L. O. Silva, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"X-Ray Spectroscopy of Rapidly Heated Buried-Aluminum Layers," C. R. Stillman, P. M. Nilson, S. Ivancic, C. Mileham, D. D. Meyerhofer, D. H. Froula, M. E. Martin, and R. A. London, presented at the 57th Annual Meeting of the APS DPP, Savannah, GA, 16–20 November 2015.

"Electro-Optic Measurements on the OMEGA Laser System: How to do Small Science in a Big Science Environment," W. R. Donaldson, presented at the 39th Annual IEEE EDS Activities in Western New York Conference, Rochester, NY, 6 November 2015 (invited).

"Modeling Tritium on Metal Surfaces," W. T. Shmayda, M. Sharpe, and M. Cody, presented at the Tritium Focus Group, Los Alamos, NM, 3–5 November 2015.

"Radiological Challenges at the Laboratory for Laser Energetics," W. T. Shmayda, presented at the Tritium Focus Group, Los Alamos, NM, 3–5 November 2015.

"Shock Ignition-An Alternative Concept for Laser Fusion," W. Theobald, presented at GSI Presentation, Darmstadt, Germany, 27 October 2015 (invited).

"From ALPHA to OMEGA EP—The History of LLE," R. L. McCrory, presented at OSA Rochester Section, Rochester, NY, 27 October 2015.

"A High-Average-Power, Degenerate, 2.06 $\mu$m $BiB_3O_6$ Femtosecond Optical Parametric Oscillator," T. Petersen and J. Bromage, presented at Frontiers in Optics, San Jose, CA, 18–22 October 2015.

"Temporal Analog of Reflection and Refraction," B. W. Plansinis, G. P. Agrawal, and W. R. Donaldson, presented at Frontiers in Optics, San Jose, CA, 18–22 October 2015.

"Tritium Operations at the Laboratory for Laser Energetics," W. T. Shmayda, presented at the Health Physics Society, Rochester, NY, 15 October 2015.

"Advanced Zirconia-Coated Carbonyl-Iron Particles for Acidic Magnetorheological Finishing of Chemical-Vapor-Deposition ZnS and Other IR Materials," S. Salzman, L. J. Giannechini, H. J. Romanofsky, N. Golini, B. Taylor, A. Maltsev, S. D. Jacobs, K. L. Marshall, and J. C. Lambropoulos, presented at Optifab 2015, Rochester, NY, 12–15 October 2015.

"Cerium Oxide Polishing Slurry Reclamation Project: Characterization Techniques and Results," K. Tinkham, T. Jacobs, M. Mayton, Z. Hobbs, K. L. Marshall, and S. D. Jacobs, presented at Optifab 2015, Rochester, NY, 12–15 October 2015.

"A Review of Scattered Light Analysis for Distributed Polariztion Rotators," K. A. Sharma, T. A. Germer, J. D. Zuegel, and T. G. Brown, presented at the Industrial Associates Fall 2015 Meeting, Rochester, NY, 12–13 October 2015.

"Temporal Analog of Reflection and Refraction," B. W. Plansinis, G. P. Agrawal, and W. R. Donaldson, presented at the Industrial Associates Fall 2015 Meeting, Rochester, NY, 12–13 October 2015.

"Probing the Release of Shocked Material," D. Polsin, T. R. Boehly, S. Ivancic, M. C. Gregor, C. A. McCoy, D. D. Meyerhofer, D. E. Fratanduono, and P. M. Celliers, presented at the 3rd High-Power Laser Workshop, Menlo Park, CA, 5–6 October 2015.

"Terahertz Spectroscopy on Graphene-Polymer Nanocomposites," R. Shrestha, A. Koroliov, and R. Sobolewski, presented at the Undergraduate Research Fair, Rochester, NY, 30 September 2015.

"Optically-Active Semiconducting Asymmetric Nano-Channel Diodes," A. Stern, Y. Akbas, G. Wicks, and R. Sobolewski, presented at the Undergraduate Research Fair, Rochester, NY, 30 September 2015.

"The Role of Film Interfaces in Near-Ultraviolet Absorption and Pulsed-Laser Damage in Ion-Beam–Sputtered Coatings Based on $HfO_2/SiO_2$ Thin-Film Pairs," S. Papernov, A. A. Kozlov, J. B. Oliver, C. Smith, L. Jensen, D. Ristau, S. Günster, and H. Mädebach, presented at the Laser Damage Symposium, Boulder, CO, 27–30 September 2015.

"Alpha Heating and Burning Plasmas in Inertial Confinement Fusion," R. Betti, A. R. Christopherson, A. Bose, K. M. Woo, J. Howard, K. S. Anderson, E. M. Campbell, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, W. Theobald, M. J. Edwards, R. Nora, B. K. Spears, J. Sanz, O. A. Hurricane, P. K. Patel, J. D. Lindl, and D. Shvarts, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Continuous Distributed Phase Plate Design Advances for High-Energy Laser Systems," J. A. Marozas, T. J. B. Collins, J. D. Zuegel, P. W. McKenty, D. Cao, S. Fochs, and P. B. Radha, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Cross Beam Energy Transfer Mitigation to Achieve 80-Gbar Direct-Drive Implosions on OMEGA," D. H. Froula, I. V. Igumenshchev, T. J. Kessler, G. Fiksel, V. N. Goncharov, J. A. Delettrez, S. X. Hu, H. Huang, D. D. Meyerhofer, D. T. Michel, S. P. Regan, T. C. Sangster, A. Shvydky, and J. D. Zuegel, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Cryogenic Target Research for Ignition Experiments at the National Ignition Facility," D. R. Harding, N. P. Redden, and M. D. Wittman, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Demonstrating Ignition Hydrodynamic Equivalence in Direct-Drive Cryogenic Implosions on OMEGA," V. N. Goncharov, S. P. Regan, T. C. Sangster, R. Betti, T. R. Boehly, E. M. Campbell, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, A. Shvydky, C. Stoeckl, W. Theobald, B. Yaakobi, and M. Gatu Johnson, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Design and Operation of the Multiple-Pluse Driver Line on the OMEGA Laser," T. Z. Kosc, J. H. Kelly, E. M. Hill, and L. J. Waxer, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Design Options for Polar-Direct-Drive Targets—From Alpha Heating to Ignition," T. J. B. Collins, J. A. Marozas, S. Skupsky, D. Cao, P. W. McKenty, J. A. Delettrez, and G. Moses, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"First-Principles Studies on the Equation-of-State, Thermal Conductivity, and Opacity of Deuterium–Tritium and Polystyrene (CH) for Inertial Confinement Fusion Applications," S. X. Hu, L. A. Collins, V. N. Goncharov, J. D. Kress, T. R. Boehly, R. Epstein, R. L. McCrory, and S. Skupsky, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Focal-Spot Zooming Using Radial Diffusion and Dispersion," T. J. Kessler and H. Huang, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Framed X-Ray Imaging of Cryogenic Target Implosion Cores on OMEGA," F. J. Marshall, V. N. Goncharov, V. Yu. Glebov, S. P. Regan, T. C. Sangster, and C. Stoeckl, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Gigabar Shocks and Hot-Electron Production in Various Ablator Materials for Shock Ignition Fusion," W. Theobald, R. Betti, R. Nora, W. Seka, M. Lafon, K. S. Anderson, M. Hohenberger, F. J. Marshall, D. T. Michel, A. Shvydky, A. A. Solodov, C. Stoeckl, D. H. Edgell, B. Yaakobi, A. Casner, C. Reverdin, X. Ribeyre, A. Vallet, J. Peebles, F. N. Beg, M. S. Wei, and R. Yan, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Hydrodynamic Instability Growth in Polar-Direct-Drive Implosions at the National Ignition Facility," M. Hohenberger, A. Shvydky, P. B. Radha, M. J. Rosenberg, V. N. Goncharov, S. Le Pape, F. J. Marshall, D. T. Michel, J. P. Knauer, S. P. Regan, T. C. Sangster, S. R. Nagel, A. Nikroo, V. A. Smalyuk, and R. J. Wallace, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Hydrodynamic Simulations of Long-Scale-Length Plasmas for Two-Plasmon Decay Planar-Target Experiments on the National Ignition Facility," A. A. Solodov, M. J. Rosenberg, J. F. Myatt, R. Epstein, S. P. Regan, W. Seka, J. G. Shaw, M. Hohenberger, J. W. Bates, J. D. Moody, J. E. Ralph, D. P. Turnbull, and M. A. Barrios, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Laser–Plasma Interaction in Direct-Drive Inertial Confinement Fusion," J. F. Myatt, J. G. Shaw, V. N. Goncharov, J. Zhang, A. V. Maximov, R. W. Short, R. K. Follett, W. Seka, D. H. Edgell, and D. H. Froula, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Laser Science and Technology Progress Toward Polar Direct Drive at the National Ignition Facility," J. D. Zuegel, P. J. Wegner, M. W. Bowers, T. G. Brown, T. J. B. Collins, C. W. Carr, J. K. Crane, J.-M. G. Di Nicola, S. N. Dixit, C. Dorrer, G. Erbert, R. P. Hackel, J. E. Heebner, E. M. Hill, M. Hohenberger, T. J. Kessler, J. Kwiatkowski, B. E. Kruschwitz, B. J. MacGowan, J. A. Marozas, K. L. Marshall, K. P. McCandless, P. W. McKenty, J. A. Menapace, J. B. Oliver, A. L. Rigatti, R. A. Sacks, T. C. Sangster, K. Sharma, D. Saulnier, A. Shvydky, L. R. Siegel, C. J. Stolz, D. Weiner, C. Widmayer, and S. T. Yang, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Measurements of the Conduction-Zone Length and Mass Ablation Rate in Cryogenic Direct-Drive Implosions on OMEGA," D. T. Michel, T. C. Sangster, V. N. Goncharov, A. K. Davis, I. V. Igumenshchev, R. Epstein, V. Yu. Glebov, S. X. Hu, D. D. Meyerhofer, S. P. Regan, W. Seka, A. Shvydky, C. Stoeckl, and D. H. Froula, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Mitigation of Cross-Beam Energy Transfer in Layered DT Cryogenic Direct-Drive Implosions," S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Epstein, P. B. Radha, R. Betti, T. R. Boehly, R. Earley, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, E. M. Hill, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, J. Kwiatkowski, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, J. C. Puth, N. P. Redden, J. Reid, W. Seka, W. T. Shmayda, A. Shvydky, C. Stoeckl, M. D. Wittman, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"MTW-OPAL: A Technology Development Platform for Ultra-Intense OPCPA Lasers and Applications," J. Bromage, S.-W. Bahk, I. A. Begishev, C. Dorrer, R. G. Roides, C. Mileham, J. B. Oliver, D. Weiner, D. Haberberger, C. Stoeckl, P. M. Nilson, D. H. Froula, and J. D. Zuegel, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"A Neutron Temporal Diagnostic for High-Yield DT Cryogenic Implosions on OMEGA," C. Stoeckl, R. Boni, F. Ehrne, C. J. Forrest, V. Yu. Glebov, J. Katz, D. J. Lonobile, J. Magoon, S. P. Regan, M. J. Shoup III, A. Sorce, C. Sorce, and T. C. Sangster, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Polar-Direct-Drive Experiments at the National Ignition Facility," P. B. Radha, M. Hohenberger, F. J. Marshall, D. T. Michel, J. W. Bates, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, S. N. Dixit, D. H. Edgell, J. A. Frenje, D. H. Froula, V. N. Goncharov, S. X. Hu, M. Karasik, J. P. Knauer, S. Le Pape, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. F. Myatt, S. P. Obenschein, R. D. Petrasso, S. P.

Regan, M. J. Rosenberg, T. C. Sangster, W. Seka, A. Shvydky, H. Sio, S. Skupsky, and A. B. Zylstra, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Precision High-Energy-Density Science at the Omega Laser Facility," D. D. Meyerhofer, E. M. Campbell, D. R. Harding, R. L. McCrory, S. F. B. Morse, S. P. Regan, T. C. Sangster, and J. M. Soures, presented at IFSA 2015, Seattle, WA, 20–25 September 2015 (invited).

"Preliminary Measurements of Performance of National Ignition Facility Beamlines for Future Experiments to Support Polar Direct Drive," J. K. Crane, S. T. Yang, M. W. Bowers, T. Budge, J. Chou, S. N. Dixit, G. Erbert, J.-M. G. DiNicola, R. P. Hackel, J. E. Heebner, M. Johnston, M. Rushford, M. Shaw, L. Smith, P. J. Wegner, B. E. Kruschwitz, C. Dorrer, D. Canning, A. Consentino, E. M. Hill, J. H. Kelly, J. Kwiatkowski, and J. D. Zuegel, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Probing Hot-Electron Preheat and Hot-Spot Asymmetries in Inertial Confinement Fusion Implosions," A. R. Christopherson, J. Howard, R. Betti, W. Theobald, E. M. Campbell, J. A. Delettrez, C. Stoeckl, D. H. Edgell, W. Seka, and D. H. Froula, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"The Quest for Laboratory Inertial Fusion Burn in the U.S.," D. H. Crandall, E. M. Campbell, T. C. Sangster, M. J. Edwards, R. P. J. Town, D. B. Sinars, S. H. Batha, S. P. Obenschain, R. D. Petrasso, C. A. Back, J. D. Kilkenny, and N. Petta, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Streaked X-Ray Imaging of Ultrafast Ionization Fronts Inside a Metal," P. M. Nilson, G. Fiksel, C. Stoeckl, P. A. Jaanimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D. D. Meyerhofer, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"Studies of Ion Kinetic Effects Using Exploding-Pusher Implosions on OMEGA and the National Ignition Facility," M. J. Rosenberg, H. G. Rinderknecht, F. H. Séguin, A. B. Zylstra, J. A. Frenje, H. Sio, M. Gatu Johnson, C. K. Li, R. D. Petrasso, N. M. Hoffmann, G. Kagan, H. W. Herrmann, R. E. Olson, P. A. Amendt, S. LePape, T. Ma, A. J. Mackinnon, J. R. Rygg, S. C. Wilks, L. Berzak Hopkins, D. T. Casey, O. L. Landen, J. D. Lindl, J. Pino, H. F. Robey, S. Atzeni, O. Larroche, V. Yu. Glebov, C. Stoeckl, W. Seka, F. J. Marshall, J. A. Delettrez, P. W. McKenty, M. Hohenberger, R. Betti, V. N. Goncharov, P. B. Radha, J. P. Knauer, T. C. Sangster, and A. Nikroo, presented at IFSA 2015, Seattle, WA, 20–25 September 2015.

"The Laboratory for Laser Energetics' Hydrogen Isotope Separation System," W. T. Shmayda, M. D. Wittman, R. Earley, J. L. Reid, and N. P. Redden, presented at the 12th International Symposium on Fusion Nuclear Technology, Jeju Island S. Korea, 14–18 September 2015.

"Nuclear Fusion in the Direct-Drive Configuration at the Laboratory for Laser Energetics: Strategies to Demonstrate Ignition," D. T. Michel, R. E. Bahr, N. Chrein, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, R. K. Follett, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, R. J. Henchen, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, P. A. Jaanimagi, J. A. Marozas, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, C. Mullarkey, J. F. Myatt, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, A. Shvydky, A. A. Solodov, C. Sorce, C. Stoeckl, N. Whiting, D. H. Froula, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, J. A. Mackinnon, S. Le Pape, and T. Ma, presented at CEA Seminar, Bruyères le Châtel, France, 1 September 2015.

"Laser-Driven Gigabar Shocks for Applications to Inertial Fusion and Basic Sciences," R. Betti, W. Theobald, R. Nora, W. Seka, M. Lafon, K. S. Anderson, M. Hohenberger, F. J. Marshall, D. T. Michel, A. Shvydky, A. A. Solodov, C. Stoeckl, D. H. Edgell, B. Yaakobi, A. Casner, C. Reverdin, X. Ribeyre, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei, presented at the 5th International Conference on High Energy Density Physics, San Diego, CA, 23–27 August 2015.

"Twisted-Nematic Liquid Crystal Polarization Rotators for Broadband Laser Applications," P. Fiala, C. Dorrer, and K. L. Marshall, presented at Ultrafast Optics 2015, Beijing, China, 16–21 August 2015.

"3$\omega$ Beam-Timing Diagnostic for the OMEGA Laser System," J. Katz, W. R. Donaldson, R. Huff, E. Hill, J. H. Kelly, J. Kwiatkowski, and R. B. Brannon, presented at Target Diagnostics Physics and Engineering for Inertial Confinement Fusion IV, San Diego, CA, 9–13 August 2015.

"Computational Chemistry Modeling and Design of Photoswitchable Alignment Materials for Optically Addressable Liquid Crystal Devices," K. L. Marshall, E. R. Sekera, and K. Xiao, presented at Organic Photonics and Electronics, San Diego, CA 9–13 August 2015 (invited).

"Interferometric Strain Measurements with a Fiber-Optic Probe," E. D. Burnham-Fay, D. W. Jacobs-Perkins, and J. D. Ellis, presented at SPIE Optical Engineering and Applications, San Diego, CA 9–13 August 2015.

"Terahertz Spectroscopy on Graphene-Polymer Nanocomposites," R. Shrestha, A. Koroliov, and R. Sobolewski, presented at the Xerox Engineering Research Fellows Program, Rochester, NY, 30 July 2015.

"Time-Resolved, Nonequilibrium Carrier Dynamics in Si-on-Glass Thin-Film Absorbers for Photovoltaic Cells," J. Serafini, Y. Akbas, L. Crandall, R. Bellman, C. K. Williams, and R. Sobolewski, presented at the 19th International Conference on Electron Dynamics, in Semiconductors, Optoelectronics, and Nanostructures, Salamanca, Spain, 29 June–2 July 2015.

"Ultrahigh Responsivity of Optically Active, Semiconducting Asymmetric Nano-Channel Diodes," Y. Akbas, A. Stern, L. Q. Zhang, Y. Alimi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, T. González, G. W. Wicks, and R. Sobolewski, presented at the 19th International Conference on Electron Dynamics in Semiconductors, Optoelectronics, and Nanostructures, Salamanca, Spain, 29 June–2 July 2015.

"Development of a Glancing-Angle–Deposited Distributed Polarization Rotator," J. B. Oliver, T. J. Kessler, C. Smith, B. Taylor, V. Gruschow, J. Hettrick, B. Charles, J. Spaulding, T. Noll, A. L. Rigatti, S. Papernov, K. A. Sharma, G. Mitchell, and J. Foster, presented at Novel Optical Materials and Applications, Boston, MA, 26 June–1 July 2015.

"Assembly of Direct-Drive Fill-Tube Targets," D. W. Turner, M. J. Bonino, S. G. Noyes, and D. R. Harding, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"Calorimetry Measurement of Supercooling in Liquid $D_2$, Suppression of Supercooling, and the Controlled Growth of a $D_2$ Crystal," D. R. Harding, R. Q. Gram, K. Arean–Raines, J. Du, T. P. Bernat, and N. Petta, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"Controlling the $D_2$ and $H_2/D_2$ Fuel Content in Cryogenic Direct Drive National Ignition Facility Targets," N. P. Redden, D. R. Harding, and M. D. Wittman, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"Effect of a Surfactant on the Electric-Field Assembly of Oil/Water Emulsions for Making Foam Targets," B. P. Chock, T. B. Jones, and D. R. Harding, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"The Effect of a Surfactant on the Operation of T-Junctions for Mass-Producing Foam Targets," N. D. Viza, M. H. Romanofsky, M. J. Moynihan, and D. R. Harding, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"How Interfacial Surface Energy Affects the Growth of the DT Ice Layer and the Fuel Content in Fill-Tube Targets," D. R. Harding, M. D. Wittman, N. P. Redden, C. Fella, and D. C. Whitaker, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"The Mechanical Properties of the Adhesives Used for Cryogenic Targets," M. J. Bonino, D. R. Harding, D. W. Turner, H. Goodrich, A. Caveglia, M. Dorward, and M. Anthamatten, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"Progress with Direct-Drive Inertial Confinement Fusion," T. C. Sangster, V. N. Goncharov, P. B. Radha, M. Hohenberger, S. P. Regan, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, P. Fitzimmons, C. J. Forrest, J. A. Frenje, D. H.

Froula, M. Gatu Johnson, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, M. Karasik, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, C. Kurz, S. LePape, A. J. Mackinnon, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, J. F. Myatt, A. Nikroo, S. P. Obenschain, R. D. Petrasso, H. G. Rinderknecht, M. J. Rosenberg, A. J. Schmitt, W. Seka, W. T. Shmayda, A. Shvydky, C. Stoeckl, S. Skupsky, J. Weaver, and A. Zylstra, presented at the 21st Target Fabrication Meeting, Las Vegas, NV, 21–25 June 2015.

"Probing the Release of Shocked Material," D. N. Polsin, C. A. McCoy, M. C. Gregor, T. R. Boehly, T. C. Sangster, D. E. Fratanduono, and P. M. Celliers, presented at the 19th Biennial APS Conference on Shock Compression of Condensed Matter, Tampa, FL, 14–19 June 2015.

"Absolute Two-Plasmon Decay and Stimulated Raman Scattering in Direct-Drive Irradiation Geometries," R. W. Short, A. V. Maximov, J. F. Myatt, W. Seka, and J. Zhang, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"The Current *LILAC* Model for Cross-Beam Energy Transfer (CBET) has been Extended to *DRACO* and Non-Symmetrical Illumination," W. Seka, S. P. Regan, P. B. Radha, J. A. Marozas, M. J. Rosenberg, M. Hohenberger, V. N. Goncharov, J. F. Myatt, D. H. Edgell, D. T. Michel, D. H. Foula, J. E. Ralph, J. D. Moody, and D. P. Turnbull, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Diagnosing Cross-Beam Energy Transfer Using Beamlets of Unabsorbed Light from Direct-Drive Implosions," D. H. Edgell, R. K. Follett, V. N. Goncharov, I. V. Igumenshchev, J. Katz, J. F. Myatt, W. Seka, and D. H. Froula, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"The Effects of Beam Incoherence and Colors on Cross-Beam Energy Transfer," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, and W. Seka, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Effects of Long- and Intermediate-Wavelength Asymmetries on Hot-Spot Energetics," A. Bose, R. Betti, K. M. Woo, A. R. Christopherson, and D. Shvarts, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Electron Shock Ignition of thermonuclear Fuel," R. Betti, K. S. Anderson, A. Bose, M. Lafon, R. Nora, and W. Theobald, presented at the 45th Annual Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Extended Equation of State of Polystyrene (CH) Based on First-Principles Calculations," S. X. Hu, L. A. Collins, V. N. Goncharov, and S. Skupsky, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Heat-Flux Measurements from Thomson-Scattering Spectra," R. J. Henchen, S. X. Hu, R. K. Follett, J. Katz, D. H. Froula, and W. Rozmus, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Hot-Electron Temperature Measurements with Laser Irradiation at $10^{14}$ to $10^{15}$ W/cm$^2$," A. A. Solodov, B. Yaakobi, J. F. Myatt, C. Stoeckl, and D. H. Froula, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Measurements of the Conduction-Zone Length and Mass Ablation Rate in Cryogenic Direct-Drive Implosions on OMEGA," D. T. Michel, T. C. Sangster, V. N. Goncharov, A. K. Davis, R. Epstein, V. Yu. Glebov, S. X. Hu, I. V. Igumenshchev, D. D. Meyerhofer, S. P. Regan, W. Seka, A. Shvydky, C. Stoeckl, and D. H. Froula, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"A Numerical Model for Hot-Electron Generation in Direct-Drive Implosions," J. F. Myatt, J. G. Shaw, V. N. Goncharov, J. Zhang, A. V. Maximov, R. W. Short, W. Seka, D. H. Edgell, D. H. Froula, D. F. DuBois, D. A. Russell, and H. Vu, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Optical Probing of Laser-Produced Plasma Experiments on the OMEGA EP Laser System," S. Ivancic, D. Haberberger, C. Stoeckl, K. S. Anderson, C. Ren, W. Theobald, J. Fienup, D. H. Froula, D. D. Meyerhofer, T. Iwawaki, H. Habara, and K. A. Tanaka, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015 (invited).

"A Pathway to Ignition-Hydrodynamic-Equivalent Implosions in OMEGA Direct Drive Through the Reduction of Cross-Beam Energy Transfer," D. H. Froula, J. A. Delettrez, G. Fiksel, V. N. Goncharov, S. X. Hu, H. Huang, I. V. Igumenshchev, T. J. Kessler, D. D. Meyerhofer, D. T. Michel, S. P. Regan, T. C. Sangster, A. Shvydky, and J. D. Zuegel, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Planar Two-Plasmon–Decay Experiments at Polar-Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility," M. J. Rosenberg, A. A. Solodov, W. Seka, R. Epstein, J. F. Myatt, S. P. Regan, M. Hohenberger, T. J. B. Collins, J. E. Ralph, D. P. Turnbull, J. D. Moody, and M. A. Barrios, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Quantifying the Growth of Cross-Beam Energy Transfer in Polar-Direct-Drive Implosions," A. K. Davis, D. Cao, D. T. Michel, R. Epstein, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, M. Lafon, J. Marozas, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, and D. H. Froula, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"The Release Behavior of Diamond Shocked to 15 Mbar," M. C. Gregor, T. R. Boehly, C. A. McCoy, D. N. Polsin, D. D. Meyerhofer, D. E. Fratanduono, P. M. Celliers, and G.

W. Collins, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Three-Dimensional Single-Mode Nonlinear Ablative Rayleigh–Taylor Instability," R. Yan, R. Betti, J. Sanz, B. Liu, and A. Frank, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Two-Plasmon–Decay Instabilities in a Plasma with Ion-Density Fluctuations," J. Li, C. Ren, and R. Yan, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"Zakharov Modeling of Thomson-Scattering Measurements of Multibeam Two-Plasmon Decay," R. K. Follett, J. G. Shaw, D. H. Edgell, R. J. Henchen, S. X. Hu, J. Katz, D. T. Michel, J. F. Myatt, A. A. Solodov, C. Stoeckl, B. Yaakobi, and D. H. Froula, presented at the 45th Anomalous Absorption Conference, Ventura, CA, 14–19 June 2015.

"High-Energy-Density Studies at the Omega Laser Facility," T. R. Boehly, M. C. Gregor, C. A. McCoy, D. N. Polsin, and D. E. Fratanduono, presented at the 19th Biennial APS Conference on Shock Compression of Condensed Matter, Tampa, FL, 14–19 June 2015.

"Laser-Beam Shaping and Imaging Using Adaptive Quasi-Phase Conjugation," S.-W. Bahk, R. G. Roides, J. Bromage, and J. D. Zuegel, presented at Computational Optical Sensing and Imaging, Arlington, VA, 7–11 June 2015.

"Modeling Tritium Migration into the Adsorbed Water Layers on Metal Surfaces," M. Sharpe, W. T. Shmayda, and W. U. Schröder, presented at the Symposium on Fusion Engineering, Austin, TX, 31 May–4 June 2015.

"High-Contrast Closed-Loop Control of Laser Beam Profiles," L. E. McIntire, M. Divoky, W. H. Knox, S.-W. Bahk, and J. D. Zuegel, presented at CLEO 2015, San Jose, CA, 10–15 May 2015.

"Single-Shot Characterization of Optical Pulses Below the Resolution Limit by Phase-Diversified Photodetection," C. Dorrer, L. Waxer, A. Kalb, E. M. Hill, and J. Bromage, presented at CLEO 2015, San Jose, CA, 10–15 May 2015.

"A Spectrally Resolved Lateral-Shearing Interferometer to Measure Relative Group Delay Using a Periodic Entrance Slit in a Spectrometer," S.-W. Bahk, C. Dorrer, R. G. Roides, and J. Bromage, presented at CLEO 2015, San Jose, CA, 10–15 May 2015.

"A Time-Multiplexed Pulse-Shaping System for Generating Multiple High-Bandwidth, Low-Jitter Optical Waveforms," C. Dorrer, W. A. Bittle, R. Cuffney, M. Spilatro, E. M. Hill, J. H. Kelly, T. Z. Kosc, and J. D. Zuegel, presented at CLEO 2015, San Jose, CA, 10–15 May 2015.

"Twisted-Nematic Liquid Crystal Polarization Rotators for Broadband Laser Applications," P. Fiala, C. Dorrer, and K. L. Marshall, presented at CLEO 2015, San Jose, CA, 10–15 May 2015.

"Using Lab-on-Chip Technology to Mass Produce Inertial Fusion Energy Targets," N. D. Viza and D. R. Harding, presented at the 5th Energy for the 21st Century Symposium, Rochester, NY, 1 May 2015.

"Commissioning the P11 Neutron Temporal Diagnostic for High-Neutron-Yield Implosions," J. Katz, C. Stoeckl, J. Magoon, R. Taylor, D. Guy, M. Couch, F. Ehrne, D. J. Lonobile, D. Weiner, E. C. Cost, C. Rees, M. H. Romanofsky, J. Szczepanski, C. Abbott, T. Lewis, and M. Maslyn, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"Diffracted Efficiencies for Optical Wavelength Gratings with Arbitrary Groove Shapes are Predicted and Compared to Measurements," J. Hassett, R. Boni, and D. H. Froula, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"Enhanced Gas Filled Capabilities for the TIM-Based Target Positioners," D. Mastrosimone, A. Agliata, T. Buczek, D. J. Lonobile, M. J. Shoup, III, and C. Sorce, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"External User Access Through the LLE PI Portal," R. W. Kidder, A. Zeller, T. Meyer, P. Stoeckl, R. Pasols, and R. Hoderried, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"An Iterative Program to Find Plasma Density Profiles from Angular Filter Refractometry Images," P. Angland, D. Haberberger, S. Ivancic, and D. H. Froula, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"OMEGA EP Short-Pulse-Transmission Study Status Report," J. Kwiatkowski, M. Barczys, M. Bedzyk, A. Kalb, B. E. Kruschwitz, C. McMahon, T. Nguyen, A. L. Rigatti, and M. Sacchitella, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"Omega Facility OLUG 2015 Update: Progress on Recommendations and Items of General Interest," S. F. B. Morse, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"OMEGA Layered DT Cryogenic Implosions," S. P. Regan, T. C. Sangster, V. N. Goncharov, R. Epstein, P. B. Radha, R. Betti, T. R. Boehly, R. Earley, C. J. Forrest, D. H. Froula, V. Yu. Glebov, E. M. Hill, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, J. Kwiatkowski, J. A. Marozas, F. J. Marshall, R. L.

McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, J. C. Puth, N. P. Redden, J. Reid, W. Seka, W. T. Shmayda, A. Shvydky, C. Stoeckl, M. D. Wittman, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015 (invited).

"Optimization of Uniformity for Current Polar-Direct-Drive Implosion Experiments at the National Ignition Facility," E. M. Garcia and R. S. Craxton, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"Statistical Investigation of Cryogenic Target Defects," R. Zhang, C. Kingsley, and R. T. Janezic, presented at the Seventh Omega Laser Facility Users Group Workshop, Rochester, NY, 22–24 April 2015.

"Cerium Oxide Polishing Slurry Reclamation Project: Characterization Techniques and Results," K. Tinkham, T. Jacobs, M. Mayton, Z. Hobbs, and K. L. Marshall, presented at the 2015 University Technology Showcase, Rochester, NY, 16 April 2015.

"High-Dynamic-Range, Single-Shot, 10-GHz Signal Processing," W. R. Donaldson, presented at the 2015 University Technology Showcase, Rochester, NY, 16 April 2015.

"Technology Development and Prospects for Multi-10-PW OPCPA Pumped by OMEGA EP," J. D. Zuegel, S.-W. Bahk, J. Bromage, M. J. Guardalben, B. E. Kruschwitz, J. B. Oliver, C. Robillard, M. J. Shoup III, C. Stoeckl, and L. J. Waxer, presented at Research Using Extreme Light, Prague, Czech Republic, 13–16 April 2015.

"Diffracted Efficiencies for Optical Wavelength Gratings with Arbitrary Groove Shapes are Predicted and Compared to Measurements," J. Hassett, R. Boni, and D. H. Froula, presented at the Undergraduate Research Exposition, Rochester, NY, 10 April 2015.

"An Iterative Program to Find Plasma Density Profiles from Angular-Filter-Refractometry Images," P. Angland, D. Haberberger, S. Ivancic, and D. H. Froula, presented at the Undergraduate Research Exposition, Rochester, NY, 10 April 2015.

"Design and Operation of the Multiple-Pulse Driver Line on the OMEGA Laser," T. Z. Kosc, J. H. Kelly, E. M. Hill, and L. J. Waxer, presented at ILOW 2015, Bordeaux, France, 7–9 April 2015.

"The Experimental Support Group's Role at the Omega Laser Facility," C. Sorce, R. E. Bahr, R. Boni, J. Katz, D. Mastrosimone, M. McCluskey, C. Mileham, A. Sorce, and N. Whiting, presented at ILOW 2015, Bordeaux, France, 7–9 April 2015.

"Omega: Capability Improvements and National Ignition Facility Enhancements for Polar Direct Drive," S. F. B. Morse, R. L. McCrory, S. J. Loucks, T. C. Sangster, S. Skupsky, D. D. Meyerhofer, J. D. Zuegel, J. H. Kelly, B. E. Kruschwitz, T. Z. Kosc, M. Barczys, L. J. Waxer, M. J. Guardalben, W. T. Shmayda, R. T. Janezic, J. C. Puth, S. Stagnitto, D. Canning, E. M. Hill, C. Sorce, C. Stoeckl, M. J. Shoup III, W. R.

Donaldson, C. Dorrer, M. D. Wittman, R. Earley, J. Bromage, S. P. Regan, B. S. Rice, J. Ulrich, D. R. Harding, and D. H. Froula, presented at ILOW 2015, Bordeaux, France, 7–9 April 2015.

"Operational Challenges and Advances in the Generation and Co-Timing of High-Precision, Low-Jitter Pulse Shapes," E. M. Hill, J. H. Kelly, T. Z. Kosc, C. Dorrer, C. Stoeckl, and W. R. Donaldson, presented at ILOW 2015, Bordeaux, France, 7–9 April 2015.

"UV Stray Light Management on OMEGA EP," D. Canning, B. E. Kruschwitz, M. Barczys, J. Kwiatkowski, K. Gibney, and D. Weiner, presented at ILOW 2015, Bordeaux, France, 7–9 April 2015.

"Optically-Active Semiconducting Asymmetric Nano-Channel Diodes," Y. Akbas, L. Q. Zhang, Y. Alimi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, T. González, G. Wicks, and R. Sobolewski, presented at the 5th OASIS Int'l Conf. & Exhibition on Optics and Electro-Optics, Tel Aviv, Israel, 3–4 March 2015.

"Polar Direct-Drive Mass-Ablation-Rate Measurements on OMEGA and the NIF," A. K. Davis, D. T. Michel, I. V. Igumenshchev, R. S. Craxton, R. Epstein, V. N. Goncharov, M. Hohenberger, S. X. Hu, M. Lafon, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, and D. H. Froula, presented at NIF and Jupiter Laser Facility User Group Meeting, Livermore, CA, 8–11 February 2015.

"The Multiple-Pulse Driver Line on the OMEGA Laser," T. Z. Kosc, J. H. Kelly, E. M. Hill, C. Dorrer, W. Donaldson, and L. J. Waxer, presented at Photonics West-LASE, San Francisco, CA, 7–12 February 2015.

## 2014

"Perspectives on Inertial Fusion," R. L. McCrory, presented at the Fusion Power Associates 35th Annual Meeting, Washington DC, 16 December 2014.

"OMEGA Recent Results and Plans," T. C. Sangster, V. N. Goncharov, P. B. Radha, M. Hohenberger, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, T. J. Kessler, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Regan, W. Seka, W. T. Shmayda, A. Shvydky, C. Stoeckl, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, H. G. Rinderknecht, M. Rosenberg, D. T. Casey, S. LePape, A. J. Mackinnon, R. J. Wallace, A. Nikroo, M. Farrell, S. P. Obenschain, M. Karasik, A. Schmitt, and J. Weaver, presented at the Fusion Power Associates 35th Annual Meeting, Washington DC, 16 December 2014.

"A 15-GHz Electro-Optic Measurement System for Noisy Environments," W. R. Donaldson, B. Beeman, E. K. Miller, and R. G. Roides, presented at Avionics Fiber-Optics and Photonics Conference, Atlanta, GA, 11–13 November 2014.

"OMEGA MIFEDS Magnetic-Field Generator," J. P. Knauer, presented at JOWOG-37, Los Alamos, M, 3–7 November 2014.

"Absolute and Convective Two-Plasmon Decay Driven by Multiple Laser Beams," R. W. Short, J. F. Myatt, J. Zhang, and W. Seka, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Astrophysical Weibel Instability in Counter-Streaming Laser-Driven Plasmas," W. Fox, G. Fiksel, D. Barnak, P. Nilson, S. X. Hu, A. Bhattacharjee, W. Deng, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014 (invited).

"Benefits of Moderate-*Z* Ablators for Direct-Drive Inertial Confinement Fusion," M. Lafon, R. Betti, K. S. Anderson, T. J. B. Collins, P. W. McKenty, A. Shvydky, and S. Skupsky, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Bubble Acceleration in Three-Dimensional Ablative Rayleigh–Taylor Instability," R. Yan, R. Betti, and J. Sanz, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Calculation of Half-Harmonic Emission Generated by the Two-Plasmon–Decay Instability," J. Zhang, J. F. Myatt, R. W. Short, A. V. Maximov, H. X. Vu, D. A. Russell, and D. F. DuBois, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Characterizing ICF Neutron Diagnostics on the nTOF Line at SUNY Geneseo," A. Simone, S. Padalino, E. Turner, M. K. Ginnane, N. Dubois, K. Fletcher, M. Giordano, P. Lawson-Keister, H. Harrison, H. Visca, T. C. Sangster, and S. P. Regan, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Coincidence Efficiency of Sodium Iodide Detectors for Positron Annihilation," T. Eckert, L. Vincett, M. Yuly, S. Padalino, M. Russ, M. Bienstock, A. Simone, D. Ellison, H. Desmitt, T. C. Sangster, and S. P. Regan, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Collimation of a Positron Beam Using an Externally Applied Axially Symmetric Magnetic Field," D. H. Barnak, G. Fiksel, H. Chen, P.-Y. Chang, D. D. Meyerhofer, G. J. Williams, S. Kerr, and J. Park, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Comprehensive Analysis of a High-Adiabat Cryogenic Implosion on OMEGA," A. R. Christopherson, R. Epstein, F. J. Marshall, R. Nora, C. Stoeckl, C. J. Forrest, J. A.

Delettrez, P. B. Radha, and J. Howard, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Constraining the Hydrodynamic Efficiency in Hydrodynamic Simulations of Direct-Drive Cryogenic Implosions," D. T. Michel, T. C. Sangster, V. N. Goncharov, A. K. Davis, V. Yu. Glebov, R. Epstein, S. X. Hu, I. V. Igumenshchev, D. D. Meyerhofer, W. Seka, A. Shvydky, C. Stoeckl, and D. H. Froula, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Correlations of Multiple Ion-Temperature Measurements with Shot Parameters in DT Cryogenic Implosions on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, and C. Forrest, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Cross-Beam Energy Transfer Driven by Incoherent Laser Beams with Colors," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, and W. Seka, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Cross-Beam Energy Transfer Mitigation Strategy for Polar Drive at the National Ignition Facility," J. A. Marozas, T. J. B. Collins, J. D. Zuegel, P. B. Radha, F. J. Marshall, P. W. McKenty, W. Seka, D. T. Michel, and M. Hohenberger, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Cryogenic Implosion Performance Using High-Purity Deuterium-Tritium Fuel," T. C. Sangster, V. N. Goncharov, P. B. Radha, R. Betti, T. R. Boehly, C. J. Forrest, D. H. Froula, V. Yu. Glebov, S. X. Hu, I. V. Igumenshchev, J. Kwiatkowski, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, W. Seka, C. Stoeckl, J. A. Frenje, M. Gatu Johnson, W. T. Shmayda, S. Reid, N. Redden, R. Earley, R. T. Janezic, M. D. Wittman, J. H. Kelly, T. Z. Kosc, E. Hill, J. Puth, T. J. Kessler, and A. Shvydky, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Design of Scaled-Down Magnetized Liner Inertial Fusion on OMEGA," P.-Y. Chang, J. R. Davies, D. H. Barnak, G. Fiksel, R. Betti, A. Harvey-Thompson, and D. Sinars, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Direct Measurements of Shock-Wave Propagation in CH Using Streaked X-Ray Radiography and VISAR," C. R. Stillman, P. M. Nilson, M. Lafon, C. Mileham, R. Boni, T. R. Boehly, D. D. Meyerhofer, D. H. Froula, and D. E. Fratanduono, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Direct Piston- Shock-Timing Measurements in CH Using Streaked X-Ray Radiography," P. M. Nilson, M. Lafon, C. R. Stillman, C. Mileham, R. Boni, T. R. Boehly, D. H. Froula, and D. D. Meyerhofer, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Effects of Self-Generated Magnetic Fields in Rayleigh–Taylor Unstable Laser-Irradiated Plastic Foils," I. V. Igumenshchev, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Empirical Scaling of Hot Electrons with the Two-Plasmon–Decay Common-Wave Gain," D. H. Edgell, I. V. Igumenshchev, D. T. Michel, J. F. Myatt, D. H. Froula, R. J. Henchen, and V. N. Goncharov, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Exploration of Kinetic and Multiple-Ion-Fluids Effects in $D^3He$ and $T^3He$ Gas-Filled ICF Implosions Using Multiple Nuclear Burn Histories," H. Sio, H. G. Rinderknecht, J. A. Frenje, M. J. Rosenberg, A. B. Zylstra, F. H. Séguin, M. Gatu Johnson, C. K. Li, R. D. Petrasso, N. Hoffman, G. Kagan, K. Molvig, P. Amendt, C. Bellei, S. Wilks, C. Stoeckl, V. Yu. Glebov, R. Betti, and T. C. Sangster, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Evaluation of Wavelength Detuning to Mitigate Cross-Beam Energy Transfer Using the Nike Laser," P. W. McKenty, J. A. Marozas, F. J. Marshall, J. Weaver, S. Obenschain, and A. Schmitt, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Fast-Electron Temperature Measurements in Laser Irradiation at $10^{14}$W/cm$^2$," A. A. Solodov, B. Yaakobi, J. F. Myatt, C. Stoeckl, and D. H. Froula, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Fuel–Shell Mix Measurements Based on X-Ray Continuum Emission from Isobaric Implosion Cores on OMEGA," R. Epstein, F. J. Marshall, V. N. Goncharov, R. Betti, R. Nora, and A. R. Christopherson, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Gigabar Spherical Shock Experiments on OMEGA," R. Nora, W. Theobald, F. J. Marshall, D. T. Michel, W. Seka, B. Yaakobi, M. Lafon, C. Stoeckl, J. A. Delettrez, A. A. Solodov, R. Betti, A. Casner, C. Reverdin, X. Ribeyre, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Heat Flux Measurements from Thomson Scattered Electron Plasma Waves," R. J. Henchen, V. N. Goncharov, S. X. Hu, R. K. Follett, J. Katz, D. H. Froula, and W. Rozmus, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Hohlraum $T_e$ Inferred from Au L-Shell Emission," S. P. Regan, M. J. May, M. B. Schneider, M. A. Barrios, J. D. Moody, K. L. Baker, G. V. Brown, D. Callahan, T. Doeppner, R. Epstein, K. B. Fournier, R. F. Heeter, D. E. Hinkel, O. S. Jones, R. Kauffman, J. D. Kilkenny, O. L. Landen, D. A. Liedahl, D. D. Meyerhofer, J. S. Ross,

V. A. Smalyuk, and T. C. Sangster, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Hydrodynamic Scaling of the Deceleration-Phase Rayleigh–Taylor Instability," A. Bose, R. Betti, K. Woo, R. Nora, R. Epstein, J. A. Delettrez, K. S. Anderson, and A. Shvydky, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Impact of First-Principles Properties of Deuterium–Tritium on Inertial Confinement Fusion Target Designs," S. X. Hu, V. N. Goncharov, T. R. Boehly, R. L. McCrory, S. Skupsky, L. A. Collins, J. D. Kress, and B. Militzer, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014 (invited).

"An Implosion-Velocity Survey for Shock Ignition at the National Ignition Facility," K. S. Anderson, P. W. McKenty, T. J. B. Collins, J. A. Marozas, M. Lafon, and R. Betti, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Instability Driven by a Self-Generated Magnetic Field: Relevance to Helical Structures in MagLIF Experiments," J. R. Davies, D. H. Barnak, R. Betti, A. Carreon, P.-Y. Chang, G. Fiksel, E. L. Campbell, and D. B. Sinars, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"An Investigation of Two-Plasmon–Decay Localization in Spherical Implosion Experiments on OMEGA," J. F. Myatt, J. Shaw, J. Zhang, A. V. Maximov, R. W. Short, W. Seka, D. H. Edgell, D. H. Froula, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Ion-Temperature Measurements for Cryogenic, High-Foot, Inertial Confinement Fusion Implosions at the National Ignition Facility," J. P. Knauer, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Limits on the Level of Fast-Electron Preheat in Direct-Drive–Ignition Designs," J. A. Delettrez, T. J. B. Collins, and C. Ye, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measurement of the Si Mass Ablation Rate in Direct-Drive Implosions on the OMEGA Laser System," A. K. Davis, D. T. Michel, I. V. Igumenshchev, R. S. Craxton, R. Epstein, V. N. Goncharov, S. X. Hu, M. Lafon, P. B. Radha, T. C. Sangster, and D. H. Froula, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measurements of Alpha Heating in Inertial Confinement Fusion," R. Betti, A. R. Christopherson, J. Howard, A. Bose, and R. Nora, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measurements of Areal-Density Anisotropies Using Elastic Scattering in Cryogenic Direct-Drive Implosions," C. J. Forrest, C. Stoeckl, V. Yu. Glebov, T. C. Sangster, P. B. Radha, V. N. Goncharov, J. A. Frenje, and M. Gatu Johnson, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measurements of Laser Imprinting Using 2-D Velocity Interferometry," T. R. Boehly, G. Fiksel, S. X. Hu, V. N. Goncharov, T. C. Sangster, and P. M. Celliers, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measurements of Proton Energy Spectra Using a Radiochromic Film Stack," T. M. Filkins, J. Steidle, D. M. Ellison, J. Steidle, C. G. Freeman, S. J. Padalino, G. Fiksel, S. P. Regan, and T. C. Sangster, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measurements of the Sound Speed and Grüneisen Parameter with a Nonsteady Wave Correction," C. A. McCoy, M. C. Gregor, D. N. Polsin, T. R. Boehly, D. D. Meyerhofer, D. E. Fratanduono, P. M. Celliers, and G. W. Collins, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Measuring Mix in Direct-Drive Cryogenic DT Implosions Using Soft X-Ray Narrowband Backlighting," C. Stoeckl, R. Epstein, G. Fiksel, V. N. Goncharov, S. X. Hu, D. W. Jacobs-Perkins, R. K. Jungquist, C. Mileham, P. M. Nilson, T. C. Sangster, and W. Theobald, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Multibeam Laser–Plasma Interactions Lead to Localized Interaction Regions," W. Seka, W. Theobald, R. Nora, R. Betii, J. F. Myatt, R. W. Short, and R. E. Bahr, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Observation of Self-Similarity in the Magnetic Fields Generated by the Ablative Nonlinear Rayleigh–Taylor Instability," L. Gao, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Observation of Two-Plasmon–Decay Common Plasma Waves Using UV Thomson Scattering," R. K. Follett, D. H. Edgell, R. J. Henchen, S. X. Hu, J. Katz, D. T. Michel, J. F. Myatt, J. Shaw, and D. H. Froula, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Observation of Variations in the T+T Neutron Spectrum with Varying Center-of-Mass Energy," M. Gatu Johnson, J. A. Frenje, A. Zylstra, R. D. Petrasso, C. Forrest, V. Yu. Glebov, J. P. Knauer, F. J. Marshall, D. T. Michel, T. C. Sangster, W. Seka, C. Stoeckl, D. Sayre, J. A. Caggiano, D. T. Casey, R. Hatarik, D. P. McNabb, J. E. Pino, A. Bacher, H. Herrmann, Y. Kim, J-. L. Bourgade, and O. Landoas, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"OMEGA EP OPAL: A Path to a 75-PW Laser System," D. D. Meyerhofer, S.-W. Bahk, J. Bromage, D. H. Froula, M. J. Guardalben, D. Haberberger, S. X. Hu, B. E. Kruschwitz, J. F. Myatt, P. M. Nilson, J. B. Oliver, C. Robillard, M. J. Shoup III, C. Stoeckl, W. Theobald, L. J. Waxer, B. Yaakobi, and J. D. Zuegel, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Optical Probing of Laser-Channeling Experiments on the OMEGA EP Laser System," S. Ivancic, D. Haberberger, C. Stoeckl, K. S. Anderson, C. Ren, W. Theobald, D. H. Froula, D. D. Meyerhofer, T. Iwawaki, H. Habara, and K. Tanaka, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Particle-in-Cell Modeling of Laser–Plasma Interactions in Three Dimensions," H. Wen, A. V. Maximov, R. Yan, J. Li, C. Ren, and J. F. Myatt, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"A Pathway to Ignition-Hydrodynamic-Equivalent Implosions in OMEGA Direct Drive Through the Reduction of Cross-Beam Energy Transfer," D. H. Froula, G. Fiksel, V. N. Goncharov, S. X. Hu, H. Huang, I. V. Igumenshchev, T. J. Kessler, D. D. Meyerhofer, D. T. Michel, T. C. Sangster, A. Shvydky, and J. D. Zuegel, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Polar-Direct-Drive Experiments on the National Ignition Facility," M. Hohenberger, P. B. Radha, J. W. Bates, R. Betti, T. R. Boehly, M. J. Bonino, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, G. Fiksel, P. Fitzsimmons, J. A. Frenje, D. H. Froula, V. N. Goncharov, D. R. Harding, D. H. Kalantar, M. Karasik, T. J. Kessler, J. D. Kilkenny, J. P. Knauer, C. Kurz, M. Lafon, K. N. LaFortune, S. LePape, B. MacGowan, A. J. Mackinnon, A. MacPhee, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, J. Meeker, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. R. Nagel, A. Nikroo, S. P. Obenschain, R. D. Petrasso, S. P. Regan, H. G. Rinderknecht, M. Rosenberg, T. C. Sangster, A. J. Schmitt, W. Seka, A. Shvydky, S. Skupsky, A. A. Solodov, C. Stoeckl, R. J. Wallace, J. Weaver, C. Widmeyer, B. Yaakobi, and J. D. Zuegel, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014 (invited).

"A Polar-Drive, Alpha-Heating Platform for the National Ignition Facility," T. J. B. Collins, J. A. Marozas, J. A. Delettrez, P. W. McKenty, S. Skupsky, D. Cao, J. Chenhall, and G. Moses, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Polar Drive on the National Ignition Facility," P. B. Radha, M. Hohenberger, F. J. Marshall, D. T. Michel, J. A. Delettrez, D. H. Edgell, D. H. Froula, V. N. Goncharov, J. P. Knauer, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, A. Shvydky, J. A. Frenje, M. Rosenberg, R. D. Petrasso, S. LePape, and A. J. Mckinnon, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Preparing for Polar-Drive Imprint Experiments at the National Ignition Facility," A. Shvydky, M. Hohenberger, P. B. Radha, R. S. Craxton, V. N. Goncharov, J. P. Knauer, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, and T. C. Sangster, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Probing the Release of Shocked Material," D. N. Polsin, M. C. Gregor, C. A. McCoy, T. R. Boehly, T. C. Sangster, D. E. Fratanduono, and P. M. Celliers, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"The Release Behavior of Diamond Shocked to 15 Mbar," M. C. Gregor, T. R. Boehly, C. A. McCoy, D. N. Polsin, D. D. Meyerhofer, D. E. Fratanduono, P. M. Celliers, and G. W. Collins, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Self-Generated Magnetic Fields in New Laser-Produced Plasma with High-Intensity Beams," A. Davies, L. Ceurvorst, P. A. Norreys, D. Haberberger, D. H. Froula, R. Yan, and C. Ren, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Spherical Strong-Shock Generation for Shock-Ignition Inertial Fusion," W. Theobald, R. Nora, W. Seka, M. Lafon, K. S. Anderson, M. Hohenberger, F. J. Marshall, D. T. Michel, A. A. Solodov, C. Stoeckl, D. Edgell, B. Yaakobi, A. Casner, C. Reverdin, X. Ribeyre, O. Shvydky, A. Vallet, J. Peebles, F. N. Beg, M. S. Wei, and R. Betti, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014 (invited).

"Strongly Driven Magnetic Reconnection in a Magnetized High-Energy-Density Plasma," G. Fiksel, D. H. Barnak, P.-Y. Chang, D. Haberberger, S. X. Hu, S. Ivancic, P. M. Nilson, W. Fox, A. Bhattacharjee, and K. Germaschewski, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Studies of $^{3}$He + $^{3}$He, T + $^{3}$He, and p + D Nuclear Reactions Relevant to Stellar or Big-Bang Nucleosynthesis Using ICF Plasmas at OMEGA," A. Zylstra, M. Gatu Johnson, J. A. Frenje, C. K. Li, F. H. Séguin, H. Sio, M. Rosenberg, H. Rinderknecht, R. D. Petrasso, H. W. Herrmann, Y. H. Kim, D. McNabb, D. Sayre, J. Pino, C. Brune, A. Bacher, C. Forrest, V. Yu. Glebov, C. Stoeckl, R. T. Janezic, and T. C. Sangster, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27−31 October 2014.

"Studies of Ion Kinetic Effects in OMEGA Shock-Driven Implosions Using Fusion Burn Imaging," M. J. Rosenberg, F. H. Séguin, H. G. Rinderknecht, H. Sio, A. B. Zylstra, M. Gatu Johnson, J. A. Frenje, C. K. Li, R. D. Petrasso, P. A. Amendt, C. Bellei, S. C. Wilks, G. Zimmerman, N. M. Hoffman, G. Kagan, K. Molvig, V. Yu. Glebov, C. Stoeckl, F. J. Marshall, W. Seka, J. A. Delettrez, T. C. Sangster, R. Betti, V. N. Goncharov, D. D. Meyerhofer, S. Atzeni, and A. Nikroo, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Study of Strong Magnetic Fields Using Parametric Instability in a Magnetized Plasma," V. V. Ivanov, A. V. Maximov, A. A. Anderson, B. S. Bauer, and K. Yates, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Studying the Equation of State of Isochorically Heated Al Using Streaked Optical Pyrometry," D. Haberberger, P. M. Nilson, M. C. Gregor, T. R. Boehly, and D. H. Froula, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Testing Talbot–Lau X-Ray Moiré Fringe Deflectometry with a Laser Backlighter," D. Stutman, M. P. Valdivia, M. Finkenthal, S. P. Regan, C. Stoeckl, and B. Stoeckl, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"A Three-Dimensional Hydrocode to Study the Deceleration Phase and Hot-Spot Formation in Inertial Confinement Fusion Implosions," K. M. Woo, A. Bose, R. Betti, J. A. Delettrez, K. S. Anderson, and R. Epstein, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Time-Resolved Imaging of Cryogenic Target X-Ray Emission at Peak Compression on OMEGA," F. J. Marshall, J. A. Delettrez, R. Epstein, V. N. Goncharov, D. T. Michel, T. C. Sangster, and C. Stoeckl, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Time-Resolved Tandem Faraday Cup for High Energy TNSA Particles," S. Padalino, A. Simone, E. Turner, M. K. Ginnane, N. Dubois, T. C. Sangster, and S. P. Regan, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Understanding the Performance of Low-Adiabat Cryogenic Implosions on OMEGA," V. N. Goncharov, T. C. Sangster, R. Epstein, S. X. Hu, I. V. Igumenshchev, C. J. Forrest, D. H. Froula, F. J. Marshall, D. T. Michel, P. B. Radha, W. Seka, C. Stoeckl, J. A. Frenje, and M. Gatu Johnson, presented at the 56th Annual Meeting of the APS DPP, New Orleans, LA, 27–31 October 2014.

"Laser-Driven Fusion at the University of Rochester and Parallels Between Laser/Optical and Radio-Frequency/Microwave Techniques," J. H. Kelly, presented at Microwave Update 2014, Rochester, NY, 24–25 October 2014.

"Spectral Changes Induced by a Phase Modulator Acting as a Time Lens," B. W. Plansinis, presented at Frontiers in Optics, Tucson, AZ, 19–23 October 2014.

"Self-Phase Modulation Compensation in a Regenerative Amplifier Using Cascaded Second-Order Nonlinearities," C. Dorrer, R. G. Roides, J. Bromage, and J. D. Zuegel, presented at ICUIL 2014, Goa, India, 12–17 October 2014.

"Technology Development for Ultra-Intense OPCPA," J. Bromage, R. G. Roides, S.-W. Bahk, C. Mileham, J. B. Oliver, C. Dorrer, and J. D. Zuegel, presented at ICUIL 2014, Goa, India, 12–17 October 2014.

"Tunable Plasma-Wave Laser Amplifier," D. Haberberger, J. Bromage, J. D. Zuegel, D. H. Froula, A. Cairns, R. Trines, R. Bingham, and P. A. Norreys, presented at ICUIL 2014, Goa, India, 12–17 October 2014.

"An Overview of the Direct-Drive Program at the Laboratory for Laser Energetics," D. H. Froula, presented at NRL Colloquium, Washington, DC, 8 October 2014.

"High-Energy-Density Physics with High-Energy and high-Intensity Lasers," D. D. Meyerhofer, S.-W. Bahk, J. Bromage, D. H. Froula, L. Gao, M. J. Guardalben, D. Haberberger, S. X. Hu, B. E. Kruschwitz, J. F. Myatt, P. M. Nilson, J. B. Oliver, C. Robillard, M. J. Shoup III, C. Stoeckl, W. Theobald, L. J. Waxer, B. Yaakobi, and J. D. Zuegel, presented at Second User Workshop on High-Power Lasers, Palo Alto, CA, 7–8 October 2014.

"Hydrodynamics of Cone-in-Shell Implosions on OMEGA," A. A. Solodov, W. Theobald, K. S. Anderson, A. Shvydky, C. Stoeckl, R. Epstein, G. Fiksel, V. Yu. Glebov, S. Ivancic, F. J. Marshall, G. McKiernan, C. Mileham, P. M. Nilson, T. C. Sangster, L. C. Jarrott, C. McGuffey, B. Qiao, F. N. Beg, E. Giraldez, R. B. Stephens, M. S. Wei, H. Habara, K. Tanaka, H. McLean, H. Sawada, and J. Santos, presented at 13th International Fast Ignition Workshop, Oxford, UK, 14–18 September 2014.

"Detection of the Laser-Damage Onset in Optical Coatings by the Photothermal-Deflection Method," K. Mikami, S. Papernov, S. Motokoshi, S. D. Jacobs, and T. Jitsuno, presented at Laser Damage 2014, Boulder, CO, 14–17 September 2014.

"Electron-Beam–Deposited Distributed-Polarization Rotator for High-Power Laser Applications," J. B. Oliver, T. J. Kessler, S. Papernov, C. Smith, B. Taylor, V. Gruschow, J. Hettrick, and B. Charles, presented at Laser Damage 2014, Boulder, CO, 14–17 September 2014.

"Interface Absorption Versus Film Absorption in $HfO_2/SiO_2$ Thin-Film Pairs in the Near-Ultraviolet and Relation to Pulsed-Laser Damage," S. Papernov, A. A. Kozlov, and J. B. Oliver, presented at Laser Damage 2014, Boulder, CO, 14–17 September 2014.

"Large-Aperture Plasma-Ion–Assisted Coatings for Femtosecond-Pulsed Laser Systems," J. B. Oliver, J. Bromage, C. Smith, and D. Sadowski, presented at Laser Damage 2014, Boulder, CO, 14–17 September 2014 (invited).

"Streak Camera Usage at the Laboratory for Laser Energetics: Past, Present, and Future," C. M. Sorce, R. Boni, S. Ingraham, C. Mileham, A. Sorce, and P. Jaanimagi, presented at Streak Camera Workshop, Albuquerque, NM, 26–27 August 2014.

"Contact-Angle Measurements as a Means of Probing the Surface Alignment Characteristics of Liquid Crystal Materials on Photoalignment Layers," K. L. Marshall, O. Didovets, and D. Saulnier, presented at Optics and Photonics, San Diego, CA, 17–21 August 2014 (invited).

"Streaked X-Ray Spectrometer for the National Ignition Facility," S. P. Regan, M. Bedzyk, M. J. Shoup III, R. K. Jungquist, C. Abbott, A. Agliata, F. J. Marshall, R. A. Hamilton, B. Yaakobi, C. Sorce, R. E. Bahr, N. Whiting, E. Kowaluk, J. M. Schoen, W. Byrne, P. Mittermeyer, A. L. Rigatti, J. Hettrick, K. L. Marshall, T. Lewis, T. Clark, S. Lombardo, R. Callari, R. Fellows, S. Gross, C. DeBottis, S Ross, G. Pien, J. DeWandel, T. C. Sangster, D. D. Meyerhofer, R. Epstein, J. Magoon, B, Staerker, J. Rodas, J. Church, M. Callahan, J. Kendrick, H. Beck, M. Schleigh, B. Ruth, T. Davlin, D. Neyland, D. Walker, S. Dent, C. Lucas, M. Rowland, S. Stagnitto, D. Mastrosimone, W. J. Armstrong, M. Labuzeta, T. Klingenberger, C. Kingsley, M. J. Bonino, J. Fooks, D. R. Harding, S. F. B. Morse, R. L. McCrory, K. B. Fournier, M. A. Barrios, H. Chen, F. Perez, S. Ayers, N. Izumi, A. G. MacPhee, P. Bell, J. D. Kilkenny, D. K. Bradley, J. Emig, B. Ehrlich, D. H. Kalantar, R. Wood, C. Bailey, G. E. Kemp, J. Pino, D. Larson, J. Celeste, B. W. Hatch, J. Jaquez, M. Farrell, A. Nikroo, C. Shipbaugh, S. C. Wilks, and A. Dalton, presented at Optics and Photonics, San Diego, CA, 17–21 August 2014.

"Diagnosing Hot-Spot Mix with X-Ray Spetroscopy," S. P. Regan, R. Epstein, R. L. McCrory, D. D. Meyerhofer, T. C. Sangster, B. A. Hammel, L. J. Suter, H. A. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, G. W. Collins, T. Dittrich, S. N. Dixit, T. Doeppner, M. J. Edwards, K. B. Fournier, S. Glenn, S. W. Haan, A. Hamza, D. E. Hinkel, O. A. Hurricane, C. A. Iglesias, N. Izumi, O S. Jones, O. L. Landen, T. Ma, A. J. Mackinnon, N. B. Meezan, A. Pak, H.-S. Park, P. K. Patel, J. Ralph, B. A. Remington, V. A. Smalyuk, P. T. Springer, R. P. J. Town, B. G. Wilson, S. H. Glenzer, I. E. Golovkin, J. J. MacFarlane, H. Huang, J. Jaquez, J. D. Kilkenny, A. Nikroo, J. L. Kline, G. A. Kyrala, and R. C. Mancini, presented at Turbulent Mixing and Beyond, Trieste, Italy, 4–9 August 2014.

"Self-Generated Magnetic Fields in Rayleigh–Taylor Unstable Laser-Produced Plasma," I. V. Igumenshchev, L. Gao, and P. M. Nilson, presented at Turbulent Mixing and Beyond, Trieste, Italy, 4–9 August 2014.

"Effects of Thermal Transport and Laser-Beam Smoothing on Beam Propagation Through Long-Scale-Length Plasmas," D. H. Froula, J. F. Myatt, A. Shvydky, S. H. Glenzer, L. Divol, O. L. Landen, O. S. Jones, C. H. Still, S. Langer, A. J. Mackinnon, J. S. Ross, B. B. Pollock, M. J. Edwards, R. P. J. Town, L. J. Suter, G. R. Tynan, and G. Gregori, presented at Fundamental Science with Pulsed Power Workshop, Albuquerque, NM, 20–23 July 2014.

"A Conceptual Summary of Basic Mathematics in Laser Fusion," K. S. Anderson, presented at the Toyota-RIT Applied Math Initiative, Rochester, NY, 30 June–3 July 2014.

"Implosion Dynamics in Direct-Drive Experiments," D. T. Michel, R. S. Craxton, A. K. Davis, R. Epstein, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, C. Stoeckl, and D. H. Froula, presented at the 41st EPS Conference on Plasma Physics, Berlin, Germany, 23–27 June 2014.

"The Release Behavior of High-Density Carbon," M. C. Gregor, C. A. McCoy, T. R. Boehly, D. E. Fratanduono, and P. M. Celliers, presented at Research at High Pressure, Biddeford, ME, 22–27 June 2014.

"Sound-Speed Measurements with Non-Steady Wave Correction," C. A. McCoy, M. C. Gregor, T. R. Boehly, D. E. Fratanduono, and P. M. Celliers, presented at Research at High Pressure, Biddeford, ME, 22–27 June 2014.

"Absolute and Convective Two-Plasmon Decay Driven by Multiple Laser Beams," R. W. Short, J. F. Myatt, J. Zhang, and W. Seka, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Cross-Beam Energy Transfer Mitigation Strategy for NIF Polar Drive," J. A. Marozas, T. J. B. Collins, J. D. Zuegel, P. B. Radha, F. J. Marshall, and W. Seka, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"An Implosion-Velocity Survey for Shock Ignition at the National Ignition Facility," K. S. Anderson, P. W. McKenty, T. J. B. Collins, J. A. Marozas, M. Lafon, and R. Betti, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Intermittent Laser–Plasma Interactions and Hot-Electron Generation in Shock Ignition," R. Yan, J. Li, and C. Ren, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Mitigation of Cross-Beam Energy Transfer in Direct-Drive Implosions on OMEGA," D. H. Froula, T. J. Kessler, G. Fiksel, I. V. Igumenshchev, V. N. Goncharov, H. Huang, S. X. Hu, J. H. Kelly, D. T. Michel, and A. Shvydky, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Multibeam Interaction Processes Relevant to Direct-Drive Inertial Confinement Fusion," W. Seka, J. F. Myatt, J. Zhang, R. W. Short, J. A. Delettrez, D. H. Froula, D. T. Michel, A. V. Maximov, V. N. Goncharov, and I. V. Igumenshchev, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"A Numerical Investigation of Two-Plasmon–Decay Localization in 60-Beam Spherical Implosion Experiments on OMEGA," J. F. Myatt, J. Shaw, J. Zhang, A. V. Maximov, R. W. Short, W. Seka, D. H. Edgell, D. H. Froula, D. F. DuBois, D. A. Russell, and H. X.

Vu, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Observation of Two-Plasmon–Decay Common Plasma Waves Using Ultraviolet Thomson Scattering," R. K. Follett, D. H. Edgell, R. J. Henchen, S. X. Hu, D. T. Michel, J. F. Myatt, H. Wen, and D. H. Froula, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Simulations of Integrated Fast-Ignition Experiments on OMEGA," A. A. Solodov, W. Theobald, K. S. Anderson, A. Shvydky, R. Epstein, P. M. Nilson, R. Betti, J. F. Myatt, C. Stoeckl, L. C. Jarrott, C. McGuffey, B. Qiao, F. N. Beg, M. S. Wei, and R. B. Stephens, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"Strong-Shock Generation and Laser–Plasma Interactions for Shock-Ignition Inertial Fusion," W. Theobald, R. Nora, M. Lafon, K. S. Anderson, A. Casner, M. Hohenberger, F. J. Marshall, D. T. Michel, C. Reverdin, X. Ribeyre, T. C. Sangster, W. Seka, A. A. Solodov, C. Stoeckl, A. Vallet, J. Peebles, M. S. Wei, B. Yaakobi, and R. Betti, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014 (invited).

"Two-Plasmon Decay Scaling for Improved-Performance Cryogenic Implosion Strategies," D. H. Edgell, V. N. Goncharov, I. V. Igumenshchev, D. T. Michel, J. F. Myatt, and D. H. Froula, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"X-Ray Spectroscopy of Implosions at the National Ignition Facility," S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, H. A. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, G. W. Collins, T. Dittrich, S. N. Dixit, T. Doeppner, M. J. Edwards, K. B. Fournier, S. Glenn, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. Hinkel, H. Huang, O. A. Hurricane, C. A. Iglesias, N. Izumi, J. Jaquez, O. S. Jones, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. MacKinnon, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, A. Pak, H. S. Park, P. K. Patel, J. Ralph, B. A. Remington, T. C. Sangster, V. A. Smalyuk, P. T. Springer, R. P. J. Town, and B. G. Wilson, presented at the 44th Annual Anomalous Absorption Conference, Estes Park, CO, 8–13 June 2014.

"A Linear Phase-Conjugation Imaging (LPCI) System," S.-W. Bahk, J. Bromage, and J. D. Zuegel, presented at CLEO 2014, San Jose, CA, 8–13 June 2014.

"Pump-to-Signal Spatial Modulation Transfer in Noncollinear Optical Parametric Amplifiers," J. Bromage and C. Dorrer, presented at CLEO 2014, San Jose, CA, 8–13 June 2014.

"Self-Phase Modulation Compensation in a Regenerative Amplifier Using Cascaded Second-Order Nonlinearities," C. Dorrer, R. G. Roides, J. Bromage, and J. D. Zuegel, presented at CLEO 2014, San Jose, CA, 8–13 June 2014.

"Spectral and Temporal Properties of Optical Signals with Multiple Sinusoidal Phase Modulations," C. Dorrer, presented at CLEO 2014, San Jose, CA, 8–13 June 2014.

"Status of High-Energy OPCPA at LLE and Future Prospects," J. D. Zuegel, J. Bromage, S.-W. Bahk, I. A. Begishev, J. Bunkenburg, T. Conley, C. Dorrer, D. H. Froula, H. Huang, R. K. Jungquist, C. Kellogg, T. J. Kessler, E. Kowaluk, M. Millecchia, S. F. B. Morse, A. V. Okishev, J. B. Oliver, T. Petersen, and J. Qiao, presented at CLEO 2014, San Jose, CA, 8–13 June 2014.

"A White-Light–Seeded Front End for Ultra-Intense Optical Parametric Chirped-Pulse Amplification," J. Bromage, R. G. Roides, S.-W. Bahk, C. Mileham, L. E. McIntire, C. Dorrer, and J. D. Zuegel, presented at CLEO 2014, San Jose, CA, 8–13 June 2014.

"Attosecond Control of Photoabsorption Through Manipulating the Electron–Electron Correlation," S. X. Hu, presented at the 45th Annual DAMOP Meeting, Madison, WI, 2–6 June 2014.

"The Absolute Calibration of the OMEGA Streaked Optical Pyrometer at the Omega Laser Facility," M. C. Gregor, R. Boni, A. Sorce, C. A. McCoy, T. R. Boehly, D. D. Meyerhofer, M. Millot, J. H. Eggert, and P. M. Celliers, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"Magnetized High-Energy-Density-Physics Platform on OMEGA," P. -Y. Chang, A. Agliata, D. H. Barnak, R. Betti, G. Fiksel, D. Hassett, D. J. Lonobile, J. Magoon, M. J. Shoup III, and C. S. Taylor, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"Masked Backlighter Technique Used to Simultaneously Image X-Ray Absorption and X-Ray Emission from an ICF Plasma," F. J. Marshall and P. B. Radha, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"Mass Ablation Rate Measurements in Direct-Drive Cryogenic Implosions Using X-Ray Self-Emission Images," A. K. Davis, D. T. Michel, S. X. Hu, R. S. Craxton, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, T. C. Sangster, and D. H. Froula, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"A New Neutron Time-of-Flight Detector for Fuel Areal-Density Measurements on OMEGA," V. Yu. Glebov, C. J. Forrest, K. L. Marshall, M. H. Romanofsky, T. C. Sangster, M. J. Shoup III, and C. Stoeckl, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"Polarimetry Diagnostic on OMEGA EP Using a 10-ps, 263-nm Probe Beam," A. Davies, R. Boni, S. Ivancic, R. Brown, D. H. Froula, D. Haberberger, J. D. Moody, B. Pollock, S. Ross, and D. Turnbill, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"Soft X-Ray Backlighting of Cryogenic Implosions Using a Narrowband Crystal Imaging System," C. Stoeckl, M. Bedzyk, G. Brent, R. Epstein, G. Fiksel, D. Guy, V. N. Goncharov, S. X. Hu, S. Ingraham, D. W. Jacobs-Perkins, R. K. Jungquist, F. J. Marshall, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014.

"Time-Resolved Measurements of the Hot-Electron Population in Ignition-Scale Experiments on the National Ignition Facility," M. Hohenberger, F. Albert, N. E. Palmer, J. J. Lee, T. Döppner, L. Divol, E. L. Dewald, B. Bachmann, G. LaCaille, D. K. Bradley, and C. Stoeckl, presented at the 20th High-Temperature Plasma Diagnostics, Atlanta, GA, 1–5 June 2014 (invited).

"Status and Prospects for High-Energy-Density Science on High-Power Lasers in the U.S.," R. Betti, presented at the International Symposium on Status and Prospects of High Energy Density Science by Giant Lasers, Tokyo, Japan, 1–4 June 2014.

"Fabrication of a Continuous-Enfolded Grating by Ion-Beam–Sputter Deposition," J. B. Oliver, T. J. Kessler, B. Charles, and C. Smith, presented at the SVC Techcon 2014, Chicago, IL, 3–8 May 2014.

"Demonstrating Ignition Hydrodynamic Equivalence in Cryogenic DT Implosions on OMEGA," V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. Nora, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, C. Sorce, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, and D. T. Casey, presented at the Cryo Workshop, Rochester, NY, 29–30 April 2014.

"Direct-Drive Cryogenic Implosion Workshop: Goals and Charge," R. L. McCrory, presented at the Cryo Workshop, Rochester, NY, 29–30 April 2014.

"Hot-Electron Production and Preheat at the Omega Laser Facility," J. F. Myatt, D. F. DuBois, H. X. Vu, and D. A. Russell, presented at the Cryo Workshop, Rochester, NY, 29–30 April 2014.

"Hydrodynamic Modeling in 2-D and 3-D: Plans and Challenges," P. W. McKenty, presented at the Cryo Workshop, Rochester, NY, 29–30 April 2014.

"Mitigation of Cross-Beam Energy Transfer in Direct-Drive Implosions on OMEGA," D. H. Froula, presented at the Cryo Workshop, Rochester, NY, 29–30 April 2014.

"Overview of Cryogenic Target Experiments," T. C. Sangster, V. N. Goncharov, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, C. Sorce, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, A. Nikroo, and M. Farrell, presented at the Cryo Workshop, Rochester, NY, 29–30 April 2014.

"The Absolute Calibration of the Streaked Optical Pyrometer at the Omega Laser Facility," M. C. Gregor, R. Boni, A. Sorce, C. A. McCoy, M. Millot, J. H. Eggert, P. M. Celliers, T. R. Boehly, and D. D. Meyerhofer, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Beam-Pointing Optimization for Proton Backlighting at the National Ignition Facility," Y. Kong, R. S. Craxton, P. W. McKenty, and C.-K. Li, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Comprehensive Analysis of a High Adiabat Implosion on OMEGA," A. Christopherson, R. Betti, R. Epstein, F. J. Marshall, R. Nora, P. B. Radha, C. Stoeckl, J. A. Delettrez, and C. J. Forrest, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Co-Propagation of Short-Pulse Beams on OMEGA EP," B. E. Kruschwitz, A. Kalb, J. Kwiatkowski, and T. Nguyen, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Demonstrating Ignition Hydrodynamic Equivalence in Cryogenic DT Implosions on OMEGA," V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. Nora, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, C Sorce, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, and D. T. Casey, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Diagnostic Effectiveness and Availability at the Omega Laser Facility," G. Pien, W. J. Armstrong, and M. Labuzeta, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Evaluation of a Compact Cryotrap," S. Goodman, W. T. Shmayda, and N. Redden, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Fielding MIFEDS on OMEGA," D. Mastrosimone, G. Fiksel, J. Magoon, A. Agliata, P.-Y. Chang, and D. Barnak, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Hydrodynamic Scaling of the Deceleration Phase from OMEGA to NIF Implosions," A. Bose, K. Woo, R. Nora, and R. Betti, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Initial Operation of the Isotope Separation System using Protium and Deuterium," M. D. Wittman, N. Redden, J. Reid, and W. T. Shmayda, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"LLE Resources Are Established to Provide Access to Information for External Users," R. W. Kidder and C. Kingsley, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"OMEGA EP Pointing, Focusing, and Timing," J. Kwiatkowski, E. Hill, B. Ehrich, M. Heimbueger, and F. J. Marshall, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Omega Facility Update: OLUG Recommendations and Items of General Interest," S. F. B. Morse, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Omega Laser Facility Diagnostic Highlights," C. Sorce, A. Sorce, J. Katz, R. E. Bahr, and P. M. Nilson, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"OMEGA SSD Arbitrary Waveform Generation Installation and Activation," E. Hill, G. Balonek, R. Cuffney, J. H. Kelly, and T. Z. Kosc, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Optical Probing Measurements on OMEGA EP," D. Haberberger, R. Boni, M. Barczys, J. Brown, R. Huff, S. X. Hu, S. Ivancic, R. G. Roides, M. Bedzyk, R. S. Craxton, F. Ehrne, C. Stoeckl, E. Hill, R. K. Jungquist, J. Magoon, D. Mastrosimone, J. Puth, W. Seka, M. J. Shoup III, W. Theobald, D. Weiner, J. D. Zuegel, D. H. Froula, J. Moody, D. Turnbull, B. Pollock, S. Ross, and A. Harvey-Thompson, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Target Diagnostic Timing Manager (TDTM)," W. J. Armstrong, J. Puth, and R. Rombaut, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Testing of the OMEGA Beam-Timing System," E. Hwang, R. Boni, and W. R. Donaldson, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"X-Ray Emission from DT-Filled Targets," R. A. Hamilton, W. T. Shmayda, and N. Redden, presented at the Sixth Omega Laser Facility Users Group Workshop, Rochester, NY, 23–25 April 2014.

"Initial Operation of the $\mu$TCAP Using $H_2$ and $D_2$," W. T. Shmayda, M. D. Wittman, J. Reid, N. Redden, R. Early, J. Magoon, K. Heung, S. Xiao, T. Sessions, and S. Redd, presented at the Tritium Focus Group, Aiken, SC, 22–24 April 2014.

"Cerium Oxide Polishing Slurry Reclamation: Process Improvements at Flint Creek Resources and Sydor Optics," T. Jacobs, M. Mayton, Z. Hobbs, and S. D. Jacobs, presented at CEIS 14th Annual University Technology Showcase, Rochester, NY, 10 April 2014.

"Soft X-Ray Backlighting of Cryogenic Implosions Using a Narrowband Crystal Imaging System," C. Stoeckl, R. Epstein, G. Fiksel, D. Guy, V. N. Goncharov, D. W. Jacobs-Perkins, R. K. Junquist, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, presented at COST LMJ Meeting, Bordeaux, France, 5–7 March 2014.

"Process Improvements and Future Work for Flint Creek Resources' Cerium Oxide Reclamation Project," T. Jacobs, M. Mayton, Z. Hobbs, and S. D. Jacobs, presented at the Industrial Associates Meeting, Rochester, NY, 3 March 2014.

"Positron Focusing Using Externally Applied Axially Symmetric Magnetic Fields," D. H. Barnak, G. Fiksel, H. Chen, P.-Y. Chang, and D. D. Meyerhofer, presented at the NIF and JLF User Group Meeting, Livermore, CA, 9–12 February 2014.

"Abnormal Beam-Profile Behavior in a Nd:YAG Ceramic Regenerative Amplifier," A. V. Okishev, presented at Photonics West, San Francisco, CA, 1–6 February 2014.

## 2013

"Near-Term Issues for Inertial Confinement Fusion," R. Betti and D. D. Meyerhofer, presented at Fusion Power Associates 34th Annual Meeting, Washington, DC, 11 December 2013.

"Perspectives on Inertial Fusion Energy," R. L. McCrory, presented at Fusion Power Associates 34th Annual Meeting, Washington, DC, 11 December 2013.

"Properties and Fracture Behavior of Nanoliter Size Volumes of Acrylate Adhesives at Cryogenic Temperatures," D. R. Harding, H. Goodrich, A. Caveglia, and M. Anthamatten, presented at the 2013 Materials Research Society Fall Meeting, Boston, MA, 1–6 December 2013.

"The Absolute Calibration of the Streaked Optical Pyrometer at the Omega Laser Facility," M. Gregor, R. Boni, A. Sorce, C. A. McCoy, R. J. Henchen, T. R. Boehly, and P. M. Celliers, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Adapting a Collision Package in Particle-in-Cell Simulations on a GPU," J. Li, C. Ren, X. Kong, M. C. Huang, and W. B. Mori, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Comparison of 2-D *DRACO* Cross-Beam Energy Transfer Simulations with OMEGA and NIF Experiments," J. A. Marozas, T. J. B. Collins, J. A. Delettrez, P. B. Radha, P. W. McKenty, I. V. Igumenshchev, D. H. Edgell, D. H. Froula, M. Hohenberger, F. J. Marshall, D. T. Michel, W. Seka, A. J. MacKinnon, S. LePape, T. Ma, D. Cao, A. Prochaska, J. Chenhall, and G. Moses, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Comparison of Implosion Velocities for Be, C, and CH Ablators Measured in Direct-Drive Implosions," D. T. Michel, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, S. X. Hu, and D. H. Froula, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Construction of a Bulk Velocity from NIF Neutron Spectral Diagnostics," J. P. Knauer, R. Hatarik, B. K. Spears, J. M. McNaney, J. A. Caggiano, M. Gatu-Johnson, and J. Frenje, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Demonstration of 200-Mbar Ablation Pressure for Shock Ignition," W. Theobald, R. Nora, M. Lafon, K. S. Anderson, A. Casner, J. R. Davies, M. Hohenberger, C. Reverdin, X. Ribeyre, T. C. Sangster, W. Seka, A. A. Solodov, C. Stoeckl, A. Vallet, B. Yaakobi, and R. Betti, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Dependence of Compressed Ablator Conditions on Shell Adiabat in NIF Implosions," S. P. Regan, C. A. Iglesias, B. G. Wilson, G. A. Kyrala, T. J. Murphy, J. L. Kline, P. A. Bradley, N. S. Krasheninnikova, R. J. Kanzleiter, H. S. Park, L. J. Suter, H. A. Scott, R. Epstein, O. S. Jones, J. D. Kilkenny, B. A. Hammel, M. A. Barrios, V. A. Smalyuk, B. A. Remington, T. C. Sangster, and D. D. Meyerhofer, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Development of the Diagnostic Laser for Deep UV Probing of the Dense Z-Pinch," B. R. Talbot, V. V. Ivanov, I. A. Begishev, A. L. Astanovitskiy, V. Nalajala, and

O. Dmitriev, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Direct-Drive–Ignition Designs with Moderate-*Z* Ablators," M. Lafon, R. Betti, K. S. Anderson, T. J. B. Collins, J. Li, R. Nora, C. Ren, and P. W. McKenty, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Effect of Nonlocal Thermal Electron Transport on the Symmetry of Polar-Drive Experiments," J. A. Delettrez, T. J. B. Collins, P. W. McKenty, P. B. Radha, S. X. Hu, S. Skupsky, F. J. Marshall, S. To, A. Shvydky, D. Cao, A. Prochaska, J. Chenhall, and G. Moses, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"The Effects of Beam Geometry and Polarization on Two-Plasmon Decay Driven by Multiple Laser Beams," R. W. Short, J. F. Myatt, and J. Zhang, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Electron Shock Ignition," R. Betti, K. S. Anderson, M. Lafon, R. Nora, and W. Theobald, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Evaluation of Cross-Beam Energy Transfer in NIF Polar-Drive, Exploding-Pusher Experiments," P. W. McKenty, J. A. Marozas, F. J. Marshall, J. A. Delettrez, R. S. Craxton, M. Hohenberger, D. H. Froula, D. T. Michel, P. A. Olson, S. To, D. D. Meyerhofer, R. L. McCrory, D. Cao, G. Moses, S. Laffite, L. Videau, S. LePape, T. Ma, and A. MacKinnon, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Half-Harmonic Radiation from Turbulence Driven by the Two-Plasmon–Decay Instability," D. F. DuBois, D. A. Russell, H. X. Vu, J. F. Myatt, and W. Seka, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Hydrodynamic Scaling of the Deceleration-Phase Rayleigh–Taylor Instability," A. Bose, R. Nora, K. Woo, and R. Betti, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"An Implosion-Velocity Survey for Shock Ignition on the NIF," K. S. Anderson, P. W. McKenty, T. J. B. Collins, J. A. Marozas, and R. Betti, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Improved Polar-Driven Implosion Performance Obtained with Contoured Shells," F. J. Marshall, P. B. Radha, M. J. Bonino, D. R. Harding, J. A. Delettrez, R. Epstein, and E.

Giraldez, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Improving the Hot-Spot Pressure and Demonstrating Ignition Hydrodynamic Equivalence in Cryogenic DT Implosions on OMEGA," V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, R. K. Follett, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, R. J. Henchen, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. Nora, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu-Johnson, R. D. Petrasso, and D. T. Casey, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013 (invited).

"Increasing Magnetic-Field Capability of MIFEDS Using an Inductively Coupled Coil," D. H. Barnak, P.-Y. Chang, G. Fiksel, R. Betti, and C. Taylor, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Initial Polar-Drive Implosions on the NIF," D. D. Meyerhofer, R. S. Craxton, D. H. Froula, M. Hohenberger, P. W. McKenty, D. T. Michel, F. J. Marshall, J. F. Myatt, P. B. Radha, T. C. Sangster, W. Seka, S. LePape, K. N. LaFortune, B. J. Macgowan, A. J. Mackinnon, J. D. Moody, and C. Widmayer, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Integrated Two-Dimensional *DRACO* Simulations of Cryogenic DT Target Performance on OMEGA," S. X. Hu, P. B. Radha, V. N. Goncharov, R. Betti, R. Epstein, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, T. C. Sangster, and S. Skupsky, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Investigation of Electric and Self-Generated Magnetic Fields in Implosion Experiments on OMEGA," I. V. Igumenshchev, A. B. Zylstra, C. K. Li, R. D. Petrasso, P. M. Nilson, and V. N. Goncharov, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"A Laser–Plasma Interaction Model for Cross-Beam Energy Transfer," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, and W. Seka, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Layered DT Direct-Drive Implosion Performance Using Neutron Spectroscopy on OMEGA," C. J. Forrest, V. Yu Glebov, V. N. Goncharov, S. X. Hu, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, C. Stoeckl, J. A. Frenje, and M. Gatu-Johnson, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Magnetic Reconnection of an Externally Applied Magnetic Field in a High-Energy-Density Plasma," G. Fiksel, D. Barnak, P.-Y. Chang, S. X. Hu, P. M. Nilson, R. Betti, W. Fox, A. Bhattacharjee, and K. Germaschewski, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Material Release at High-Energy Densities," P. M. Nilson, C. Stillman, A. Shvydky, A. A. Solodov, R. Betti, D. H. Froula, and D. D. Meyerhofer, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Measurement of 1-D Multi-FM SSD Smoothing Performance on OMEGA EP," M. Hohenberger, A. Shvydky, J. A. Marozas, T. J. B. Collins, D. Canning, M. J. Bonino, G. Fiksel, T. J. Kessler, P. W. McKenty, D. D. Meyerhofer, J. D. Zuegel, and T. C. Sangster, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Measurements of the Electron Density Profiles Using an Angular Filter Refractometer," D. Haberberger, S. Ivancic, S. X. Hu, R. Boni, M. Barczys, R. S. Craxton, and D. H. Froula, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013 (invited).

"Measurements of the Two-Plasmon-Decay Generated, Hot-Electron Fraction as a Function of the Quarter-Critical Density Scale Length," D. H. Edgell, D. Haberberger, S. X. Hu, D. T. Michel, J. F. Myatt, and D. H. Froula, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Mitigation of Cross-Beam Energy Transfer in Symmetric Direct-Drive Implosion on OMEGA," D. H. Froula, T. J. Kessler, I. V. Igumenshchev, V. N. Goncharov, H. Huang, S. X. Hu, E. Hill, J. H. Kelly, D. D. Meyerhofer, A. Shvydky, J. D. Zuegel, and R. Epstein, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Multiple-Beam Laser-Plasma Interactions in Inertial Confinement Fusion," J. F. Myatt, J. Zhang, R. W. Short, A. V. Maximov, W. Seka, D. H. Froula, D. H. Edgell, D. Michel, I. V. Igumenshchev, D. E. Hinkel, and P. Michel, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013 (invited).

"Neutron Yield Enhancement by Magnetizing Implosion on OMEGA," P.-Y. Chang, G. Fiksel, D. Barnak, J. R. Davies, and R. Betti, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"A New Neutron Time-of-Flight Detector for Fuel Areal-Density measurements on OMEGA," V. Yu Glebov, C. J. Forrest, K. L. Marshall, A. Pruyne, M. Romanofsky, T. C. Sangster, M. J. Shoup III, and C. Stoeckl, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Nonlinearity of the Two-Plasmon–Decay Instability as Reflected in the Half-Harmonic Emission from Imploding Direct-Drive Targets," W. Seka, J. F. Myatt, J. Zhang, R. W. Short, D. H. Froula, A. V. Maximov, V. N. Goncharov, and I. V. Igumenshchev, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Observation of Multi-Beam Effects on Two-Plasmon-Decay Driven Electron-Plasma Waves Using UV Thomson Scattering," R. K. Follett, D. H. Froula, D. T. Michel, S. X. Hu, J. F. Myatt, R. J. Henchen, and D. H. Edgell, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Optical Probe Measurements of a Plasma Channel for Fast Ignition," S. Ivancic, W. Theobald,, D. Haberberger, D. H. Froula, K. S. Anderson, D. D. Meyerhofer, K. Tanaka, H. Habara, and T. Iwawaki, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Optimization of Azimuthal Uniformity in NIF Polar-Drive Implosions," R. S. Craxton, P. B. Radha, A. K. Davis, D. H. Froula, M. Hohenberger, P. W. McKenty, D. T. Michel, P. A. Olson, T. C. Sangster, S. LePape, T. Ma, and A. J. MacKinnon, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Optimization of the NIF Polar-Drive–Ignition Point Design," T. J. B. Collins, J. A. Marozas, J. A. Delettrez, P. W. McKenty, K. S. Anderson, A. Shvydky, D. Cao, J. Chenhall, A. Prochaska, and G. Moses, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Polar-Drive Implosions on the NIF," P. B. Radha, M. Hohenberger, R. S. Craxton, J. A. Marozas, F. J. Marshall, D. H. Edgell, R. Epstein, D. T. Michel, D. H. Froula, V. N. Goncharov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, A. Shvydky, S. Skupsky, T. Ma, A. J. Mackinnon, and S. Le Pape, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"A Pressure Diagnostic Based on X-Ray Continuum Images of Compressed Isobaric Hydrogen Implosion Cores," R. Epstein, F. J. Marshall, V. N. Goncharov, R. Betti, A. R. Christopherson, R. Nora, I. E. Golovkin, and J. J. MacFarlane, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Simulations of Fuel Assembly and Fast-Electron Transport in Integrated Fast-Ignition Experiments on OMEGA," A. A. Solodov, W. Theobald, K. S. Anderson, A. Shvydky, R. Epstein, R. Betti, J. F. Myatt, C. Stoeckl, L. C. Jarrott, C. McGuffey, B. Qiao, F. N. Beg, M. S. Wei, and R. B. Stephens, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Soft X-Ray Backlighting of Cryogenic Implosions Using a Narrowband Crystal Imaging System," C. Stoeckl, R. Epstein, G. Fiksel, D. Guy, V. N. Goncharov, R. K. Jungquist, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Status of Ignition Hydro-Equivalent Implosion Performance on OMEGA," T. C. Sangster, V. N. Goncharov, P. B. Radha, R. Betti, T. R. Boehly, C. J. Forrest, D. H. Froula, V. Yu Glebov, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, C. Stoeckl, J. A. Frenje, and M. Gatu-Johnson, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Theory of Hydro-Equivalent Ignition for Inertial Fusion and Its Applications to OMEGA and the NIF," R. Nora, R. Betti, K. S. Anderson, A. Shvydky, A. Bose, K. M. Woo, A. R. Christopherson, J. A. Marozas, T. J. B. Collins, P. B. Radha, S. X. Hu, R. Epstein, F. J. Marshall, T. C. Sangster, and D. D. Meyerhofer, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013 (invited).

"Three-Dimensional Modeling of the Two-Plasmon–Decay Instability and Stimulated Raman Scattering Near Quarter-Critical Density in Plasmas," H. Wen, A. V. Maximov, R. Yan, C. Ren, J. F. Myatt, and W. B. Mori, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Three-Dimensional Modeling of X-Ray Self-Emission Shadowgraphy on NIF Polar-Drive Implosions," A. K. Davis, R. S. Craxton, R. Epstein, M. Hohenberger, T. C. Sangster, P. B. Radha, T. Mo, D. T. Michel, and D. H. Froula, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Two-Dimensional Numerical Evaluation of 1-D Multi-FM SSD Experiments on OMEGA EP," A. Shvydky, M. Hohenberger, J. A. Marozas, M. J. Bonino, D. Canning, T. J. B. Collins, T. J. Kessler, B. E. Kruschwitz, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, and J. D. Zuegel, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Two-Plasmon Decay Driven by Multiple Incoherent Laser Beams," J. Zhang, J. F. Myatt, R. W. Short, A. V. Maximov, H. X. Vu, D. A. Russell, and D. F. DuBois, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"Ultraviolet Thomson Scattering from Direct-Drive Coronal Plasmas," R. J. Henchen, V. N. Goncharov, D. T. Michel, R. K. Follett, J. Katz, and D. H. Froula, presented at the 55th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 11–15 November 2013.

"New Tritium Facilities at the University of Rochester's Laboratory for Laser Energetics," W. T. Shmayda and N. Redden, presented at the 18th International Conference on Tritium Science and Technology, Nice, France, 21–25 October 2013.

"Noncollinear Optical Parametric Amplifiers for Ultra-Intense Lasers," J. Bromage, R. G. Roides, S.-W. Bahk, J. B. Oliver, C. Mileham, C. Dorrer, and J. D. Zuegel, presented at the Sixth International Symposium on Ultrafast Photonics Technologies, Rochester, NY, 21–22 October 2013.

"The University of Rochester is a Pioneer in Laser Fusion," D. D. Meyerhofer, presented at the Sixth International Symposium on Ultrafast Photonics Technologies, Rochester, NY, 21–22 October 2013.

"Magnetorheological Finishing with Chemically-Modified Fluids for Studying Material Removal of Single Crystal ZnS," S. Salzman, H. J. Romanofsky, Y. I. Clara, L. J. Giannechini, G. West, J. C. Lambropoulos, and S. D. Jacobs, presented at Optifab 2013, Rochester, NY, 14–17 October 2013.

"Applications and Results of X-Ray Spectroscopy in Implosion Experiments on the National Ignition Facility," R. Epstein, S. P. Regan, B. A. Hammel, L. J. Suter, H. A. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, G. W. Collins, S. N. Dixit, T. Doppner, M. J. Edwards, D. R. Farley, K. B. Fournier, S. Glenn, S. H. Glenzer, I. E. Golovkin, A. Hamza, D. G. Hicks, N. Izumi, O. S. Jones, M. H. Key, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. Mackinnon, R. C. Mancini, R. L. McCrory, D. D. Meyerhofer, N. B. Meezan, A. Nikroo, H.-S. Park, P. K. Patel, J. E. Ralph, B. A. Remington, T. C. Sangster, V. A. Smalyuk, P. T. Springer, R. P. J. Town, and J. L. Tucker, presented at the 18th Annual International Conference on Atomic Processes in Plasmas, Auburn, AL, 7–10 October 2013 (invited).

"Current Status of NIF Polar-Drive–Ignition Designs," P. W. McKenty, presented at ICF Burning Plasma Platforms, Livermore, CA, 2–3 October 2013.

"Collective Ultraviolet Thomson Scattering from High-Power Laser-Produced Plasmas," R. J. Henchen, R. K. Follett, D. H. Edgell, V. N. Goncharov, J. Katz, and D. H. Froula, presented at SLAC High-Power Laser Workshop, Menlo Park, CA, 1–2 October 2013.

"Direct-Drive Fusion and High-Energy-Density Research at the Laboratory for Laser Energetics," D. H. Froula, presented at SLAC High-Power Laser Workshop, Menlo Park, CA, 1–2 October 2013 (invited).

"A Reflective Image-Rotating Periscope for Spatially Resolved Thomson-Scattering Experiments on OMEGA," J. Katz, C. Sorce, D. H. Froula, and J. S. Ross, presented at the 16th International Symposium on Laser Aided Plasma Diagnostics, Madison, WI, 22–26 September 2013.

"Near-Ultraviolet Absorption-Annealing Effects in $HfO_2$ Thin Films Subjected to Continuous-Wave Laser Irradiation at 355 nm," S. Papernov, A. A. Kozlov, J. B. Oliver, and B. Marozas, presented at Laser Damage 2013, Boulder, CO, 22–25 September 2013.

"Direct-Drive–Implosion Physics: Results from OMEGA and the National Ignition Facility," P. B. Radha, V. N. Goncharov, M. Hohenberger, T. C. Sangster, R. Betti, R. S. Craxton, D. H. Edgell, R. Epstein, D. H. Froula, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, S. X. Hu, W. Seka, A. Shvydky, S. Skupsky, J. A. Frenje, M. Gatu-Johnson, R. D. Petrasso, T. Ma, S. Le Pape, and A. J. Mackinnon, presented at the 8th International Conference on Inertial Fusion Sciences and Applications, Nara, Japan, 8–13 September 2013.

"Experimental Plasma Physics Program," D. H. Froula, presented at the University of Alberta ICF Committee, Rochester, NY, 28 August 2013.

"Mass Production of Targets for Inertial Fusion Energy," D. R. Harding, T. B. Jones, D. D. Meyerhofer, S. H. Chen, R. Q. Gram, M. Bobeica, Z. Bei, M. Moynihan, W. Wang, W. T. Shmayda, S.-J. Scott, A. Nikroo, J. Hund, R. Paguio, G. Randall, J. Fooks, D. Goodin, R. Garrell, and A. Tucker-Schwartz, presented at the University of Alberta ICF Committee, Rochester, NY, 28 August 2013.

"The Polar-Drive–Ignition Campaign Plan Through FY15," T. C. Sangster, presented at the University of Alberta ICF Committee, Rochester, NY, 28 August 2013.

"Shock-Ignition OMEGA Experiments and Target Design for the NIF," K. S. Anderson, R. Betti, P. W. McKenty, T. J. B. Collins, M. Hohenberger, W. Theobald, T. R. Boehly, R. S. Craxton, J. A. Delettrez, D. H. Edgell, S. X. Hu, M. Lafon, J. A. Marozas, D. D. Meyerhofer, R. Nora, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, A. Shvydky, B. Yaakobi, R. Yan, X. Ribeyre, G. Schurtz, A. Casner, L. J. Perkins, M. R. Terry, and D. E. Fratanduono, presented at the University of Alberta ICF Committee, Rochester, NY, 28 August 2013.

"The Theoretical Plasma Physics Program at LLE," J. F. Myatt, R. W. Short, A. V. Maximov, A. A. Solodov, J. Zhang, C. Ren, R. Yan, I. V. Igumenshchev, S. X. Hu, V. N. Goncharov, W. Seka, D. H. Edgell, D. H. Froula, B. Yaakobi, D. T. Michel, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the University of Alberta ICF Committee, Rochester, NY, 28 August 2013.

"Liquid Crystal Chiroptical Polarization Rotators for the Near-UV Region: Theory, Materials, and Device Applications," D. Saulnier, B. Taylor, K. L. Marshall, T. J. Kessler, and S. D. Jacobs, presented at Optics and Photonics, San Diego, CA, 25–29 August 2013 (invited).

"Liquid Crystal Near-IR Beam Shapers Employing Photoaddressable Alignment Layers for High-Peak-Power Applications," K. L. Marshall, D. Saulnier, H. Xianyu, S. Serak,

and N. Tabiryan, presented at Optics and Photonics, San Diego, CA, 25–29 August 2013 (invited).

"Measuring the Hot-Electron Population Using Time-Resolved, Hard X-Ray Detectors on the NIF," M. Hohenberger, N. E. Palmer, G. LaCaille, E. L. Dewald, L. Divol, E. J. Bond, T. Döppner, J. J. Lee, R. L. Kauffman, J. D. Salmonson, C. A. Thomas, D. K. Bradley, C. Stoeckl, and T. C. Sangster, presented at Optics and Photonics, San Diego, CA, 25–29 August 2013.

"Noncollinear Optical Parametric Amplifiers for Ultra-Intense Lasers," J. Bromage, R. G. Roides, S. -W. Bahk, J. B. Oliver, C. Mileham, C. Dorrer, and J. D. Zuegel, presented at Nonlinear Optics 2013, Kamuela, HI, 21–26 July 2013 (invited).

"Direct-Drive Inertial Confinement Fusion: Where We Started (60 kJ), Where We Stand Today (1.5 MJ), and Where We Will be in 50 Years (100 kJ)," D. H. Froula, presented at Intense Laser and Beam Plasma Interactions Workshop, Los Angeles, CA, 19–20 July 2013 (invited).

"Technology Development and Prospects for Exawatt-Class OPCPA Pumped by OMEGA EP," J. D. Zuegel, J. Bromage, S.-W. Bahk, I. A. Begishev, J. Bunkenburg, T. Conley, C. Dorrer, H. Huang, R. K. Jungquist, C. Kellogg, T. J. Kessler, E. Kowaluk, J. R. Marciante, S. F. B. Morse, A. V. Okishev, J. B. Oliver, T. Petersen, C. Stoeckl, D. Haberberger, P. M. Nilson, G. Fiksel, J. F. Myatt, and D. D. Meyerhofer, presented at the 3rd IZEST Meeting, Livermore, CA, 17–18 July 2013.

"Diagnostics for High-Energy-Density Physics," D. D. Meyerhofer, presented at High-Energy-Density Physics Summer School, Columbus, OH, 15–19 July 2013.

"Hydrodynamic Simulations of HED Plasmas," P. B. Radha, presented at High-Energy-Density Physics Summer School, Columbus, OH, 15–19 July 2013.

"Comparison of the 2-D *DRACO* Cross-Beam Energy Transfer (CBET) Simulations with OMEGA and NIF Experiments," J. A. Marozas, T. J. B. Collins, P. B. Radha, D. H. Edgell, D. H. Froula, M. Hohenberger, F. J. Marshall, D. T. Michel, and W. Seka, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Comparison of Implosion Velocities for Be, C, and CH Ablators Measured in Direct-Drive Implosions," D. T. Michel, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, S. X. Hu, W. Seka, and D. H. Froula, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Cross-Beam Energy Transfer in Polar-Drive Implosions on OMEGA and the NIF," D. H. Edgell, T. J. B. Collins, V. N. Goncharov, I. V. Igumenshchev, J. A. Marozas, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, and D. H. Froula, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"The Effects of Beam Geometry and Polarization on Two-Plasmon Decay Driven by Multiple Laser Beams," R. W. Short, J. F. Myatt, and J. Zhang, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Implications of Two-State Focal Zooming on OMEGA to Mitigate Cross-Beam Energy Transfer," D. H. Froula, T. J. Kessler, I. V. Igumenshchev, V. N. Goncharov, H. Huang, S. X. Hu, E. Hill, J. H. Kelly, D. D. Meyerhofer, A. Shvydky, and J. D. Zuegel, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Linear Growth and Nonlinear Saturation of Two-Plasmon Decay Driven by Multiple Laser Beams," J. Zhang, J. F. Myatt, A. V. Maximov, R. W. Short, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Measurement of Long-Scale-Length Plasma Density Profiles for Two-Plasmon Decay Studies," D. Haberberger, D. H. Edgell, S. X. Hu, S. Ivancic, B. Yaakobi, R. Boni, and D. H. Froula, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Measurements of the Divergence of Fast Electrons in Laser-Irradiated Spherical Targets," A. A. Solodov, B. Yaakobi, J. F. Myatt, J. A. Delettrez, F. J. Marshall, C. Stoeckl, and D. H. Froula, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"The Nonlinear Behavior of the Two-Plasmon–Decay Instability," W. Seka, J. F. Myatt, J. Zhang, R. W. Short, D. H. Froula, D. T. Michel, A. V. Maximov, V. N. Goncharov, I. V. Igumenshchev, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013 (invited).

"Nonlinear Interaction Between Multiple Incoherent Laser Beams in the Plasmas of Direct-Drive ICF," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, and W. Seka, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Observation of Two-Plasmon Decay Produced Electron-Plasma Waves Using UV Thomson Scattering," R. K. Follett, D. H. Froula, J. Katz, D. T. Michel, S. X. Hu, J. F. Myatt, and R. J. Henchen, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Time-Resolved Electron Temperature Measurements Near $n_c/4$ Reveal Temperature Islands on Imploding Targets," W. Seka, J. F. Myatt, R. W. Short, D. H. Froula, J. Katz, V. N. Goncharov, and I. V. Igumenshchev, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"Understanding the Creation of NIF-Scale Plasmas on OMEGA EP for Laser–Plasma Instability Studies," S. X. Hu, D. H. Edgell, D. H. Froula, V. N. Goncharov, D. T. Michel, J. F. Myatt, S. Skupsky, and B. Yaakobi, presented at the 43rd Anomalous Absorption Conference, Stevenson, WA, 7–12 July 2013.

"The Omega Laser Facility Provides Unique High-Energy-Density Science Capabilities to University, National Laboratory, and Industry Researchers," J. M. Soures, presented at the 2013 User Science Exhibition, Washington, DC, 26 June 2013.

"Shock Ignition: Past, Present, and Future," R. Nora, W. Theobald, K. S. Anderson, M. Hohenberger, M. Lafon, J. A. Delettrez, A. A. Solodov, P. W. McKenty, W. Seka, T. R. Boehly, S. X. Hu, C. Stoeckl, B. Yaakobi, R. Yan, R. Betti, X. Ribeyre, G. Schurtz, and A. Casner, presented at the 4th International Conference on High Energy Density Physics, Saint-Malo, France, 25–28 June 2013.

"Wavefront Sensing Improvements Using a Checkerboard Amplitude Mask," S.-W. Bahk and C. Dorrer, presented at Computational Optical Sensing and Imaging, Arlington, VA, 23–27 June 2013.

"Reclamation of Rare-Earth Oxides from Spent Optical Polishing Slurries: Expanding the Technology," S. D. Jacobs, T. Jacobs, D. Saulnier, M. M. Mayton, T. DePorter, J. Sydor, and Z. Hobbs, presented at the Rochester Regional Optics/Photonics/Imaging Business Connections Symposium, Rochester, NY, 20 June 2013.

"Plasma-Ion–Assisted Coatings for 15-fs Laser Systems," J. B. Oliver, J. Bromage, C. Smith, D. Sadowski, C. Dorrer, and A. L. Rigatti, presented at the Optical Interference Coatings 2013, Whistler, Canada, 16–21 June 2013.

"Polar-Drive ICF," T. C. Sangster, presented at the NIF Management Advisory Committee, Livermore, CA, 11–12 June 2013.

"Accelerated Evaporative Drying of RF Foam for ICF Target Fabrication," S.-J. Scott and D. R. Harding, presented at the 25th Symposium on Fusion Engineering, San Francisco, CA, 10–14 June 2013.

"Evaluation of Tritium Capture Systems," W. T. Shmayda, presented at the 25th Symposium on Fusion Engineering, San Francisco, CA, 10–14 June 2013.

"Status and Challenges for Mass Producing Inertial Fusion Energy Targets Using an Automated Electromechanical Microfluidic Process," D. R. Harding, T. B. Jones, W. Weiqiang, and Z. Bei, presented at the 25th Symposium on Fusion Engineering, San Francisco, CA, 10–14 June 2013.

"Characterization of Highly Dispersive Components Using Direct Instantaneous Frequency Measurements," C. Dorrer, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"Design and Analysis of Meter-Size Deformable Gratings for Compressing Kilojoule, Petawatt Laser Pulses," J. Qiao, J. Papa, and A. Kalb, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"Long-Term Performance of Liquid Crystal Optics on Large Fusion Lasers," T. Z. Kosc, A. Owens, A. L. Rigatti, S. D. Jacobs, and J. H. Kelly, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"An Off-Axis, Single-Pass Radial-Group-Delay Compensator Design Using an Offner Triplet for a Broadband OPCPA Laser," S.-W. Bahk, J. Bromage, J. D. Zuegel, and R. K. Jungquist, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"Plasma Refractometry Using Angular Spectral Filters on OMEGA EP," D. Haberberger, S. Ivancic, M. Barczys, R. Boni, and D. H. Froula, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"Polar-Direct-Drive Ignition on the NIF," T. C. Sangster, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"Shock-Ignition OMEGA Experiments and Target Design for the NIF," K. S. Anderson, R. Betti, P. W. McKenty, T. J. B. Collins, M. Hohenberger, W. Theobald, T. R. Boehly, R. S. Craxton, J. A. Delettrez, D. H. Edgell, S. X. Hu, M. Lafon, J. A. Marozas, D. D. Meyerhofer, R. Nora, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, A. Shvydky, B. Yaakobi, X. Ribeyre, G. Schurtz, A. Casner, L. J. Perkins, M. R. Terry, and D. E. Fratanduono, presented at CLEO 2013, San Jose, CA, 9–14 June 2013.

"Self-Switching Diodes as Optical Photodectors," C. Chakraborty, J. Serafini, J. Zhang, R. Sobolewski, L. Q. Zhang, Y. Alimi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, and T. González, presented at Photonics North, Ottawa, Canada, 3–5 June 2013.

"Time-Resolved Carrier Dynamics in Si-on-Glass Absorbers for Photovoltaic Cells," J. Serafini, Y. Wang, and R. Sobolewski, presented at Photonics North, Ottawa, Canada, 3–5 June 2013.

"Time-Resolved Relaxation Dynamics of Nonequilibrium Carriers in Free-Standing GaGs Films," J. Serafini, J. Zhang, Y. Akbas, R. Sobolewski, M. Mikulics, and R. Adam, presented at Photonics North, Ottawa, Canada, 3–5 June 2013.

"High-Resolving Power, Ultrafast Streaked X-Ray Spectrometer for OMEGA EP," P. M. Nilson, presented at the NIF Diagnostic Workshop, Livermore, CA, 21 May 2013.

"Characterization of Fresh and Reclaimed Cerium Oxide Slurries Used in Optics Manufacturing," T. Jacobs, D. Saulnier, M. Mayton, Z. Hobbs, and S. D. Jacobs, presented at the Annual Symposium on Materials Research, Rochester, NY, 20 May 2013.

"Considerations for Successful Operation of the OMEGA EP Multi-FM SSD System," L. J. Waxer, J. H. Kelly, B. E. Kruschwitz, C. Dorrer, M. J. Guardalben, A. V. Okishev, and J. D. Zuegel, presented at the 9th International Laser Operations Workshop, Livermore, CA, 13–16 May 2013.

"Cryogenic DT System Improvements for Enhanced ICF Platforms," S. F. B. Morse, R. E. Bahr, S. J. Loucks, J. Ulreich, B. Rice, M. J. Shoup III, D. W. Jacobs-Perkins, C. Stoeckl, and C. Mileham, presented at the 9th International Laser Operations Workshop, Livermore, CA, 13–16 May 2013.

"The Experimental Support Group's Role at the OMEGA Facility," C. Sorce, R. E. Bahr, J. Katz, and D. H. Froula, presented at the 9th International Laser Operations Workshop, Livermore, CA, 13–16 May 2013.

"Migrating Polar Drive from OMEGA to the NIF," T. C. Sangster, presented at the 9th International Laser Operations Workshop, Livermore, CA, 13–16 May 2013.

"Multi-FM and NIF PAM Operation on OMEGA EP," D. Canning, G. Balonek, A. Consentino, C. Dorrer, E. Hill, S. Householder, B. E. Kruschwitz, S. F. B. Morse, J. Puth, and J. D. Zuegel, presented at the 9th International Laser Operations Workshop, Livermore, CA, 13–16 May 2013.

"Omega Laser Facility Status and Performance," J. Puth, S. F. B. Morse, D. Canning, S. Stagnitto, S. Householder, M. Labuzeta, M. Barczys, E. Hill, M. Spilatro, D. Haberberger, J. Kwiatkowski, R. W. Kidder, B. E. Kruschwitz, G. Pien, and G. Fiksel, presented at the 9th International Laser Operations Workshop, Livermore, CA, 13–16 May 2013.

"Assembly Techniques and Challenges of Two-Plasmon–Decay (TPD) Double-Shell Targets," J. A. Fooks, M. J. Bonino, A. L. Greenwood, J. S. Jaquez, and M. L. Hoppe, Jr., presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Deployment of a Spatial Light Modulator-Based Beam-Shaping System on the OMEGA EP Laser," M. Barczys, S.-W. Bahk, M. Spilatro, D. Coppenbarger, E. Hill, T. H. Hinterman, R. W. Kidder, J. Puth, T. Touris, and J. D. Zuegel, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Diagnostic Performance on OMEGA," G. Pien, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Exploring the Capabilities of the Omega Laser Facility Web Pages," C. Sorce and M. Labuzeta, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Fabrication and Characterization of Radial and Azimuthal Polarization Converters with Photoaligned Liquid Crystals," C. M. Caggiano, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"High-Resolving-Power, Ultrafast Streaked X-Ray Spectrometer for OMEGA EP," P. M. Nilson, R. Jungquist, C. Stoeckl, C. Mileham, P. A. Jaanimagi, I. A. Begishev, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, J. D. Zuegel, D. H. Froula, R. Betti, D. D. Meyerhofer, K. Hill, M. Bitter, P. Efthmion, and B. Stratton, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"How to Ensure Successful Diagnostic Qualification at the OMEGA Laser Facility," A. T. Agliata, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"LLE Resources Are Established to Provide Access to Information for External Users," R. W. Kidder, M. Miller, C. Kingsley, and A. Zeller, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"OMEGA EP 4$\omega$ Diagnostic: System Description and Recent Results," D. Haberberger, R. Boni, M. Barczys, J. Brown, R. G. Roides, R. Huff, S. Ivancic, M. Bedzyk, R. S. Craxton, F. Ehrne, E. Hill, R. K. Jungquist, J. Magoon, D. Mastrosimone, J. Puth, W. Seka, M. J. Shoup III, W. Theobald, D. Weiner, J. D. Zuegel, and D. H. Froula, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"OMEGA EP Shot Performance and Facility Enhancement Status," D. Canning, S. Householder, M. Labuzeta, J. Puth, S. F. B. Morse, B. Kruschwitz, M. Barczys, E. Hill, J. Kwiatowski, and R. W. Kidder, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Omega Laser Facility Timing Management," E. Hill and J. Puth, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Omega Laser Facility Update: 2013 Progress on OLUG Recommendations," S. F. B. Morse, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Optical Modeling and Analysis of a High-Throughput and High-Temporal-Resolution Spectrometer," R. Q. Rivlis, R. Boni, and S. Ivancic, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Qualifying as an External Instrument Specialist/Technician at LLE," S. Stagnitto, M. Labuzeta, and C. Sorce, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Recent Progress in Omega Cryogenic Implosions," V. N. Goncharov, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Recent Results from Polar-Drive–Implosions on OMEGA and the NIF," P. B. Radha, F. J. Marshall, M. Hohenberger, T. R. Boehly, T. J. B. Collins, R. S. Craxton, D. H. Edgell, D. H. Froula, V. N. Goncharov, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, T. C. Sangster, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Wavefront Measurements of High-Power UV Lasers with a Hartmann Sensor," E. F. Armstrong, M. Barczys, B. E. Kruschwitz, and S.-W. Bahk, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Welcoming Remarks: Omega Laser Users' Group 5th Annual Meeting," R. L. McCrory, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 24–26 April 2013.

"Overview of Tritium Activities of the Laboratory for Laser Energetics," W. T. Shmayda, presented at the Tritium Focus Group Workshop, Germantown, MD, 23–25 April 2013.

"Observation of Self-Similarity in the Magnetic Fields Generated by the Nonlinear Rayleigh–Taylor Instability," D. D. Meyerhofer, presented at the Reconnection Workshop, Princeton, NJ, 4 April 2013.

"Reclamation of Slurries Used in Optics Manufacturing," M. M. Mayton, Z. Hobbs, and S. D. Jacobs, presented at The Center for Emerging and Innovative Sciences, University Technology Showcase, Rochester, NY, 26 March 2013.

"Ultrahigh-Intensity Research Plans at the Laboratory for Laser Energetics," D. H. Froula, J. Bromage, D. Haberberger, P. M. Nilson, J. D. Zuegel, and D. D. Meyerhofer, presented at the Workshop on Frontiers in Extreme Relativistic Optics, Columbus, OH, 20–21 February 2013 (invited).

"Direct-Drive and Alternate Approaches for Laser Inertial Confinement Fusion," R. L. McCrory, presented at the 2013 AAAS Annual Meeting, Boston, MA, 14–18 February 2013.

"Observation of Self-Similarity in the Magnetic Fields Generated by the Nonlinear Rayleigh–Taylor Instability," L. Gao, P. M. Nilson, I. V. Igumenshchev, G. Fiksel, R. Yan, J. R. Davies, D. Froula, R. Betti, D. D. Meyerhofer, M. G. Haines, D. Martinez, V. A. Smalyuk, and E. Blackman, presented at the Workshop on Exploratory Topics in Plasma and Fusion Research, Fort Worth, TX, 12–15 February 2013.

"Commissioning of a Multiple-FM Smoothing by Spectral Dispersion Demonstration System on OMEGA EP," B. E. Kruschwitz, J. H. Kelly, C. Dorrer, A. V. Okishev, L. J. Waxer, G. Balonek, I. A. Begishev, W. Bittle, A. Consentino, R. Cuffney, E. Hill, J. A.

Marozas, M. Moore, R. G. Roides, and J. D. Zuegel, presented at LASE Photonics West, San Francisco, CA, 2–7 February 2013.

"Deployment of a Spatial Light Modulator-Based Beam-Shaping System on the OMEGA EP Laser," M. Barczys, S.-W. Bahk, M. Spilatro, D. Coppenbarger, E. Hill, T. H. Hinterman, R. W. Kidder, J. Puth, T. Touris, and J. D. Zuegel, presented at LASE Photonics West, San Francisco, CA, 2–7 February 2013.

"A Highly Energetic Multiwavelength Diode-Pumped Nanosecond Laser System with Flexible Pulse-Shaping Capability," A. V. Okishev, I. A. Begishev, R. Cuffney, S. Papernov, and J. D. Zuegel, presented at LASE Photonics West, San Francisco, CA, 2–7 February 2013.

"Simulations of the Propagation of Multiple-FM Smoothing by Spectral Dispersion on OMEGA EP," J. H. Kelly, A. Shvydky, J. A. Marozas, M. J. Guardalben, B. E. Kruschwitz, L. J. Waxer, C. Dorrer, E. Hill, A. V. Okishev, and J.-M Di Nicola, presented at LASE Photonics West, San Francisco, CA, 2–7 February 2013.

"The Efficacy of Selective Calculus Ablation at 400 nm: Comparison to Conventional Calculus Removal Methods," J. E. Schoenly, W. Seka, G. Romanos, and P. Rechmann, presented at Lasers in Dentistry XIX, San Francisco, CA, 2–7 February 2013.

"LLE FY13–FY15 Plans," R. L. McCrory, presented at the 2013 ICF Executives Meeting, Washington DC, 10 January 2013.

## 2012

"Fusion Science Center Activities on Advanced ICF Ignition," R. Betti, presented at the Fusion Power Associates Meeting, Washington, DC, 5–6 December 2012.

"Progress Toward Polar-Drive Ignition for the NIF," R. L. McCrory, presented at the Fusion Power Associates Meeting, Washington, DC, 5–6 December 2012.

"Textured Silicon Surfaces for Moving Oil Droplets in 'Lab-on-Chip' Devices," D. R. Harding, W. Wang, and T. B. Jones, presented at the Material Research Society Fall Meeting, Boston, MA, 25–30 November 2012.

"Tritium Fuel Cycle for Direct-Drive Inertial Fusion Reactors Using Microfluidics," W. T. Shmayda, D. R. Harding, and T. B. Jones, presented at the 2012 American Nuclear Society Winter Meeting and Nuclear Technology Expo, San Diego, CA, 11–15 November 2012.

"X-Ray Spectroscopy of Ignition-Scale Implosions on the National Ignition Facility," S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, C. A. Iglesias, B. G. Wilson, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, T. Doeppner, M. J. Edwards, S. H.

Glenzer, I. E. Golovkin, S. W. Haan, N. Izumi, O. S. Jones, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, H. S. Park, K. J. Peterson, J. Ralph, B. A. Remington, T. C. Sangster, V. A. Smalyuk, P. Springer, and R. P. J. Town, presented at the 15th Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 5–9 November 2012.

"Integrated Fast-Ignition Experiments on OMEGA," A. A. Solodov, W. Theobald, K. S. Anderson, A. Shvydky, R. Betti, J. F. Myatt, and R. B. Stephens, presented at the 12th International Workshop on Fast Ignition of Fusion Targets, Napa Valley, CA, 4–8 November 2012.

"Scaling of Ignition Laser Parameters with Fast-Electron Parameters," J. R. Davies, presented at the 12th International Workshop on Fast Ignition of Fusion Targets, Napa Valley, CA, 4–8 November 2012.

"Absolute Ion-Temperature Measurements in DD and DT Implosions on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, C. Forrest, and R. A. Lerche, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Analysis of Fast Electrons in Shock-Ignition Implosions on OMEGA," R. Nora, W. Theobald, R. Betti, J. A. Delettrez, A. A. Solodov, K. S. Anderson, W. Seka, and M. Lafon, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Anomalous Shock Yields in Direct- and Indirect-Drive $D^3He$ Exploding Pushers," H. G. Rinderknecht, C. K. Li, M. Gatu-Johnson, A. Zylstra, M. Rosenberg, J. A. Frenje, F. H. Séguin, R. D. Petrasso, P. A. Amendt, A. Miles, J. R. Rygg, V. Yu. Glebov, C. Stoeckl, and T. C. Sangster, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Burning DT Plasmas with Ultrafast Soft X-Ray Pulses," S. X. Hu, V. N. Goncharov, and S. Skupsky, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Coincidence Efficiency Measurement Using 11B(p,n)11C," S. Padlino, M. Russ, D. Polsin, M. Krieger, C. Stillman, M. Bienstock, D. Ellison, A. Simone, M. Yuly, K. Mann, T. Reynolds, and C. Sangster, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Collisional Effects on Hot-Electron Generation in Two-Plasmon-Decay Instability in Inertial Confinement Fusion," J. Li, R. Yan, C. Ren, A. V. Maximov, W. B. Mori, and F. S. Tsung, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Collisionless Shock Wave Acceleration of Ions on OMEGA EP," D. Haberberger, D. H. Froula, S. X. Hu, C. Joshi, S. Tochitsky, C. Gong, F. Fiuza, and L. Silva, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Cross-Beam Energy Transfer with Additional Ion Heating Integrated into the 2-D Hydrodynamics Code *DRACO*," J. A. Marozas, T. J. B. Collins, D. H. Edgell, I. V. Igumenshchev, and J. F. Myatt, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Cross Section of the (n, 2n) Reaction in $^{12}C$ in the Energy Interval 20-30 MeV," S. Padalino, D. Polsin, M. Russ, M. Krieger, M. Bienstock, D. Ellison, A. Simone, C. Stillman, M. Yuly, K. Mann, T. Reynolds, and C. Sangster, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Design and Characterization of a Collimated Neutron Beam User Facility at SUNY Geneseo," S. Padalino, M. Krieger, M. Russ, D. Polsin, M. Bienstock, D. Ellison, and A. Simone, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Developing a D$^3$He Exploding-Pusher Platform to Study Kinetic Effects," H. Sio, M. Rosenberg, H. G. Rinderknecht, D. T. Casey, A. Zylstra, C. Waugh, M. Gatu−Johnson, F. H. Séguin, C. K. Li, J. A. Frenje, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, T. C. Sangster, C. Stoeckl, V. N. Goncharov, P. A. Amendt, C. Bellei, and S. C. Wilks, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Drive-Symmetry Studies of NIF Exploding-Pusher Experiments," P. W. McKenty, R. S. Craxton, A. Shvydky, D. H. Froula, D. T. Michel, J. A. Marozas, T. C. Sangster, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, M. L. Hoppe, S. Le Pape, A. J. MacKinnon, and D. H. Munro, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Effect of Nonlocal Electron Transport in Two Dimensions on the Symmetry of Polar-Drive-Ignition Targets," J. A. Delettrez, T. J. B. Collins, A. Shvydky, G. Moses, D. Cao, and M. M. Marinak, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"The Effects of Beam Polarization and Orientation on Convective and Absolute Two-Plasmon Decay by Multiple Laser Beams," R. W. Short, J. F. Myatt, A. V. Maximov, D. T. Michel, D. H. Froula, and J. Zhang, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"An Empirical Target-Discharging Model for Direct-Drive Implosions on OMEGA," N. Sinenian, M. J.-E. Manuel, J. A. Frenje, F. H. Séguin, C. K. Li, R. D. Petrasso, V. N.

Goncharov, J. A. Delettrez, C. Stoeckl, T. C. Sangster, and J. Cobble, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Experimental Platform for Magnetized HEDP Science at Omega," P.-Y. Chang, A. Agliata, D. H. Barnak, W. Bittle, G. Fiksel, D. Hassett, M. Hohenberger, D. Lonobile, M. J. Shoup III, C. Taylor, and R. Betti, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October– November 2012.

"Experimental Reduction of Laser Imprinting and Rayleigh–Taylor Growth in Spherically Compressed, Medium-*Z*–Doped Plastic Targets," G. Fiksel, V. N. Goncharov, D. D. Meyerhofer, T. C. Sangster, B. Yaakobi, M. J. Bonino, and V. A. Smalyuk, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Fuel–Ablator Mix from Surface Nonuniformities in Directly Driven Implosions," I. V. Igumenshchev, V. N. Goncharov, T. R. Boehly, T. C. Sangster, and S. Skupsky, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"The Growth of Surface Defects Driven by Shock Waves," T. R. Boehly, V. N. Goncharov, S. X. Hu, J. A. Marozas, T. C. Sangster, and D. D. Meyerhofer, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"High-*Z* Ablator Targets for Direct-Drive ICF," R. Betti, R. Nora, M. Lafon, J. F. Myatt, C. Ren, R. Yan, J. Li, A. V. Maximov, D. H. Froula, W. Seka, K. S. Anderson, R. Epstein, J. A. Delettrez, S. X. Hu, P. M. Nilson, V. A. Smalyuk, and W. Theobald, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Hot-Spot Mix and Compressed Ablator $\rho R$ Measurements in Ignition-Scale Implosions," S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, C. Cerjan, T. Doeppner, S. H. Glenzer, I. E. Golovkin, S. W. Haan, O. Jones, J. D. Kilkenny, J. L. Kline, and O. L. Landen, J. J. MacFarlane, R. C. Mancini, H. S. Park, B. A. Remington, V. A. Smalyuk, and J. Springer, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Hydrodynamic Simulations of Direct-Drive Targets with Moderate-*Z* Ablators," M. Lafon, R. Nora, K. S. Anderson, and R. Betti, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Improving Cryogenic DT Implosion Performance on OMEGA," T. C. Sangster, V. N. Goncharov, R. Betti, P. B. Radha, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, J. A. Frenje, D. H.

Froula, M. Gatu-Johnson, V. Yu Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, C. Kingsley, T. Z. Kosc, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. D. Petrasso, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, V. Versteeg, B. Yaakobi, and J. D. Zuegel, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012 (invited).

"Improving Implosion Velocity in Cryogenic Deuterium–Tritium Implosions on OMEGA," V. N. Goncharov, T. C. Sangster, R. Epstein, S. X. Hu, I. V. Igumenshchev, D. H. Froula, R. L. McCrory, D. D. Meyerhofer, D. T. Michel, P. B. Radha, W. Seka, S. Skupsky, C. Stoeckl, D. T. Casey, J. A. Frenje, and M. Gatu-Johnson, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"In Situ Calibration for Proton Particle Telescope," S. Padalino, D. Polsin, M. Russ, M. Krieger, M. Bienstock, D. Ellison, A. Simone, C. Stillman, M. Yuly, K. Mann, T. Reynolds, and C. Sangster, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Magnetic-Field Generation by the Rayleigh–Taylor Instability in Planar Targets on OMEGA EP," L. Gao, P. M. Nilson, I. V. Igumenshchev, S. X. Hu, J. R. Davies, C. Stoeckl, D. H. Froula, R. Betti, D. D. Meyerhofer, and M. G. Haines, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Measured Hot-Electron Intensity Thresholds Quantified by a Two-Plasmon–Decay Gain in Various Experimental Configurations," D. T. Michel, A. V. Maximov, R. W. Short, J. A. Delettrez, D. Edgell, S. X. Hu, I. V. Igumenshchev, J. F. Myatt, A. A. Solodov, C. Stoeckl, B. Yaakobi, and D. H. Froula, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012 (invited).

"Measurements and Interpretation of TT and Down-Scattered DT Neutron Spectra on OMEGA and the NIF," M. Gatu-Johnson, D. T. Casey, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, J. P. Knauer, T. C. Sangster, R. Bionta, M. J. Edwards, S. H. Glenzer, S. P. Hatchett, O. L. Landen, A. J. MacKinnon, D. McNabb, D. H. Munro, J. Pino, S. Sepke, P. J. Springer, and J. D. Kilkenny, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Measurements of Rayleigh–Taylor-Induced Magnetic Fields During Linear and Nonlinear Growth Phases," M. J.-E. Manuel, C. K. Li, F. H. Séguin, D. T. Casey, R. D. Petrasso, S. X. Hu, R. Betti, J. D. Hager, D. D. Meyerhofer, and V. A. Smalyuk,

presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Mitigating Two-Plasmon–Decay Hot-Electron Generation Through the Modification of Langmuir and Ion-Acoustic Dissipation in Directly Driven Targets," J. F. Myatt, J. Zhang, R. W. Short, A. V. Maximov, A. A. Solodov, W. Seka, D. H. Froula, B. Yaakobi, D. T. Michel, D. H. Edgell, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Modeling Cold Fusion Distributions Inferred from Elastically Scattered Neutrons in Layered Cryogenic DT Direct-Drive Implosions," C. J. Forrest, V. Yu. Glebov, J. P. Knauer, T. C. Sangster, C. Stoeckl, S. Gardner, K. S. Anderson, P. B. Radha, V. N. Goncharov, D. D. Meyerhofer, C. Morrison, D. Baldwin, and S. Padalino, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Modeling Cross-Beam Energy Transfer for Polar-Drive Experiments," D. H. Edgell, P. B. Radha, V. N. Goncharov, I. V. Igumenshchev, J. Marozas, J. F. Myatt, W. Seka, and D. H. Froula, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Monochromatic 8.05-keV Flash Radiography of Imploded Cone-in-Shell Targets," W. Theobald, A. A. Solodov, C. Stoeckl, R. Epstein, V. Yu. Glebov, G. Fiksel, S. Ivancic, F. J. Marshall, G. McKiernan, C. Mileham, P. M. Nilson, T. C. Sangster, C. Jarrott, F. N. Beg, E. Giraldez, R. B. Stephens, M. S. Wei, H. McLean, H. Sawada, and J. Santos, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Multibeam Two-Plasmon Decay: Experimental Signatures and Diagnostic Applications," W. Seka, D. H. Edgell, D. H. Froula, J. Katz, J. F. Myatt, J. Zhang, R. W. Short, D. T. Michel, A. V. Maximov, and V. N. Goncharov, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Neutron Spectroscopy at the National Ignition Facility," J. P. Knauer, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012 (invited).

"A New Platform for Calibrating nTOF Detectors at ICF Facilities Using CR-39–Based Proton Detectors," C. Waugh, M. Rosenberg, J. A. Frenje, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, T. C. Sangster, and C. Stoeckl, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Non-Inertial Eulerian Hydrodynamic Code for ICF Implosion Simulations," A. Bose, R. Betti, P.-Y. Chang, and J. R. Davies, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Optimization of Drive Uniformity in NIF Polar-Drive Implosions Using Gated X-Ray Self-Emission Images," R. S. Craxton, P. W. McKenty, P. A. Olson, D. H. Froula, D. T. Michel, S. Le Pape, and A. J. MacKinnon, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Optimization with *Telios* of the Polar-Drive Point Design for the National Ignition Facility," T. J. B. Collins, J. A. Marozas, K. S. Anderson, V. N. Goncharov, P. W. McKenty, R. Betti, and S. Skupsky, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Particle-in-Cell Simulations of Particle Energization via Shock Drift Acceleration from Low Mach Number Quasi-Perpendicular Shocks in Solar Flares," J. Park, C. Ren, J. C. Workman, and E. G. Blackman, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Polar-Drive Experiments with Shimmed Targets on OMEGA," F. J. Marshall, P. B. Radha, M. J. Bonino, J. A. Delettrez, R. Epstein, S. Skupsky, and E. Girladez, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Polar-Drive–Ignition Experimental Plan on the NIF," D. D. Meyerhofer, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, S. J. Loucks, P. W. McKenty, R. L. McCrory, P. B. Radha, and T. C. Sangster, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Polar-Drive Implosions on OMEGA and the National Ignition Facility," P. B. Radha, F. J. Marshall, J. A. Marozas, A. Shvydky, I. Gabalski, T. R. Boehly, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, J. Frenje, D. H. Froula, V. N. Goncharov, M. Hohenberger, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, R. D. Petrasso, T. C. Sangster, and S. Skupsky, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012 (invited).

"A Polar-Drive Shock-Ignition Design for the National Ignition Facility," K. S. Anderson, R. Betti, P. W. McKenty, T. J. B. Collins, M. Hohenberger, W. Theobald, R. S. Craxton, J. A. Delettrez, M. Lafon, J. A. Marozas, R. Nora, S. Skupsky, and A. Shvydky, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012 (invited).

"Ray-Trace Simulations for the Optical $4\omega$ Probe Diagnostic on OMEGA EP," S. Ivancic, W. Theobald, R. Boni, D. H. Froula, S. X. Hu, and D. D. Meyerhofer, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"The Release of Shocked Materials," C. McCoy, T. R. Boehly, P. M. Nilson, T. J. B. Collins, T. C. Sangster, D. D. Meyerhofer, D. E. Fratanduono, P. M. Celliers, and D. G. Hicks, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Scattering of Multiple Crossing Laser Beams in Direct-Drive ICF Plasmas," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, D. H. Edgell, and W. Seka, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Shock-Ignition Studies in Planar Geometry on OMEGA," M. Hohenberger, W. Theobald, S. X. Hu, R. Betti, K. S. Anderson, T. R. Boehly, A. Casner, D. D. Meyerhofer, X. Ribeyre, T. C. Sangster, G. Schurtz, W. Seka, C. Stoeckl, and B. Yaakobi, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Simulations of Cone-in-Shell Targets for Integrated Fast-Ignition Experiments on OMEGA," A. A. Solodov, W. Theobald, K. S. Anderson, A. Shvydky, R. Betti, J. F. Myatt, C. Stoeckl, and R. B. Stephens, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Soft X-Ray Backlighting of Direct-Drive Implosions Using a Narrowband Crystal Imaging System," C. Stoeckl, J. A. Delettrez, G. Fiksel, D. Guy, R. K. Jungquist, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Spectroscopy of Mid-$Z$ Shell Additives in Implosions at the National Ignition Facility," R. Epstein, S. P. Regan, R. L. McCrory, D. D. Meyerhofer, T. C. Sangster, J. L. Tucker, B. A. Hammel, L. J. Suter, H. Scott, D. A. Callahan, C. Cerjan, N. Izumi, M. H. Key, O. L. Landen, N. B. Meezan, B. A. Remington, I. E. Golovkin, J. J. MacFarlane, R. C. Mancini, and K. J. Peterson, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"A Streak-Camera–Based Magnetic Recoil Spectrometer (SCMRS) for Measurements of $T_i(t)$, $Y_n(t)$, dsr($t$) on OMEGA and the NIF," J. A. Frenje, D. T. Casey, M. Gatu-Johnson, C. K. Li, F. H. Séguin, R. D. Petrasso, R. Bionta, M. J. Edwards, S. H. Glenzer, O. L. Landen, A. J. MacKinnon, D. H. Munro, P. J. Springer, J. D. Kilkenny, V. Yu. Glebov, T. C. Sangster, and C. Stoeckl, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Thomson-Scattering Measurements of Ion-Acoustic Wave Amplitudes Driven by the Two-Plasmon-Decay Instability," R. K. Follett, D. T. Michel, J. F. Myatt, S. X. Hu, B. Yaakobi, and D. H. Froula, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"A Three-Dimensional Zakharov Model of the Two-Plasmon-Decay Instability in Inhomogeneous Plasmas Driven by Multiple Laser Beams," J. Zhang, J. F. Myatt, R. W. Short, A. V. Maximov, H. X. Vu, D. A. Russell, and D. F. DuBois, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Time-Resolved X-Ray Brightness Measurements from Short-Pulse Laser-Irradiated Thin Foils," B. Eichman, W. Theobald, C. Stoeckl, C. Mileham, and T. C. Sangster, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Tracking Intense Flows of Energy Inside OMEGA EP Laser-Irradiated Metal Targets," P. M. Nilson, G. Fiksel, C. Stoeckl, P. A. Jaanimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D. D. Meyerhofer, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Two-Dimensional Numerical Evaluation of 1-D Multi-FM SSD Experiments," A. Shvydky, M. Hohenberger, J. A. Marozas, M. J. Bonino, D. Canning, T. J. B. Collins, T. J. Kessler, P. W. McKenty, T. C. Sangster, and J. D. Zuegel, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Two-Plasmon–Decay Electron-Divergence Measurements in Direct-Drive Implosions on OMEGA," D. H. Froula, B. Yaakobi, D. T. Michel, D. H. Edgell, R. K. Follett, W. Seka, C. Stoeckl, T. C. Sangster, A. A. Solodov, S. X. Hu, I. V. Igumenshchev, P. B. Radha, J. A. Delettrez, J. F. Myatt, R. W. Short, and V. N. Goncharov, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"X-Ray Thomson Scattering: Incisive Probe for Warm, Dense Matter," S. P. Regan, presented at the 54th Annual Meeting of the APS Division of Plasma Physics, Providence, RI, 29 October–2 November 2012.

"Mechanisms of Near-Ultraviolet, Nanosecond-Pulse Laser Damage in $HfO_2/SiO_2$–Based Multilayer Coatings," S. Papernov, presented at Frontiers of Optical Coatings, Hangzhou, China, 15–18 October 2012.

"Compressing Magnetic Fields with High-Energy Lasers," J. P. Knauer, P.-Y. Chang, M. Hohenberger, G. Fiksel, F. J. Marshall, D. D. Meyerhofer, R. Betti, F. H. Séguin, and R. D. Petrasso, presented at the 14th International Conference on Megagauss Magnetic Field Generation and Related Topics, Maui, HI, 14–19 October 2012.

"High-Damage-Threshold Beam Shaping Using Optically Patterned Liquid Crystal Devices," C. Dorrer, K. L. Marshall, S. H. Chen, M. Vargas, M. Statt, C. Caggiano,

S. K.-H. Wei, J. B. Oliver, P. Leung, K. Wegman, J. Boulé, Z. Zhao, S. Papernov, A. Rakhmann, and I. Jovanovic, presented at Frontiers in Optics 2012, Rochester, NY, 14–18 October 2012.

"Intracavity Chirped-Pulse Amplification for High-Energy Ultrafast Optical Parametric Oscillators," T. Petersen and J. Bromage, presented at Frontiers in Optics 2012, Rochester, NY, 14–18 October 2012.

"OPCPA Front End and Contrast Optimization for the OMEGA EP Kilojoule, Picosecond Laser," C. Dorrer, V. Bagnoud, I. A. Begishev, J. Bromage, A. Consentino, M. J. Guardalben, A. V. Okishev, J. Qiao, R. G. Roides, and J. D. Zuegel, presented at Frontiers in Optics 2012, Rochester, NY, 14–18 October 2012.

"Progress Toward Polar-Drive Ignition for the NIF," R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, J. A. Frenje, D. H. Froula, M. Gatu-Johnson, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, T. J. Kessler, J. P. Knauer, C. K. Li, J. A. Marozas, F. J. Marshall, P. W. McKenty, T. Michel, J. F. Myatt, P. M. Nilson, S. J. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, R. W. Short, A. Shvydky, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, and J. D. Zuegel, presented at the 24th IAEA Fusion Energy Conference, San Diego, CA, 8–13 October 2012.

"Theory of Ignition and Hydro-Equivalence for Inertial Confinement Fusion," R. Betti, presented at the 24th IAEA Fusion Energy Conference, San Diego, CA, 8–13 October 2012.

"355-nm Absorption in $HfO_2$ and $SiO_2$ Monolayers with Embedded Hf Nanoclusters Studied Using Photothermal Heterodyne Imaging," S. Papernov, E. Shin, T. Murray, A. W. Schmid, and J. B. Oliver, presented at Laser Damage, Boulder, CO, 23–26 September 2012.

"An Anamorphically Imaged, Programmable Beam-Shaping System for High-Power Lasers," S.-W. Bahk, I. A. Begishev, and J. D. Zuegel, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"Characterization of Highly Dispersive Components Using Direct Instantaneous Frequency Measurements," C. Dorrer, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"Design and Analysis of a Meter-Scale Deformable Multilayer-Dielectric-Grating–Based Compressor for Kilojoule, Petawatt Laser Systems," J. Qiao, A. Kalb, Z. De Santis, and J. Papa, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"Design and Status of an Energy Upgrade to the Multi-Terawatt Laser at the University of Rochester's Laboratory for Laser Energetics," J. D. Zuegel, I. A. Begishev, J. Bromage, S.-W. Bahk, C. Dorrer, R. B. Brannon, and D. D. Meyerhofer, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"High-Damage-Threshold Beam Shaping Using Optically Patterned Liquid Crystal Devices," C. Dorrer, K. L. Marshall, S. H. Horn, M. Vargas, M. Statt, C. Caggiano, S. K.-H. Wei, J. B. Oliver, P. Leung, K. Wegman, J. Boulé, and Z. Zhao, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"An Improved Cleaning Method to Enhance the Damage Threshold of MLD Gratings," H. P. Howard, A. F. Aiello, J. G. Dressler, N. R. Edwards, T. J. Kessler, A. A. Kozlov, S. LaDelia, J. B. Oliver, S. Papernov, A. L. Rigatti, A. W. Schmid, C. C. Smith, B. N. Taylor, and S. D. Jacobs, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"Optical Coatings for Ultra-Intense OPCPA Systems," J. Bromage, J. B. Oliver, C. Dorrer, and J. D. Zuegel, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"Uniform Illumination and Space-Charge–Broadening Calibration for Accurate Short-Pulse Measurement Using a High-Speed Streak Camera," J. Qiao, P. A. Jaanimagi, R. Boni, J. Bromage, and E. Hill, presented at the International Committee on Ultra-High Intensity Lasers, Mamaia, Romania, 16–21 September 2012.

"Chemically Modified Organosilane Optical Coatings and Their Applications in High-Peak-Power Lasers," K. L. Marshall, A. Schulz, J. Lee, M. Rutan, E. Jones, G. Mitchell, C. Smith, and A. L. Rigatti, presented at the 244th American Chemical Society Fall 2012 National Meeting, Philadelphia, PA, 19–23 August 2012.

"Crystal Imager Development at the Laboratory for Laser Energetics," C. Mileham, C. Stoeckl, W. Theobald, G. Fiksel, D. Guy, R. K. Jungquist, P. M. Nilson, T. C. Sangster, and M. J. Shoup III, presented at Optics and Photonics 2012, San Diego, CA, 12–16 August 2012.

"Mach-Zehnder Modulator Performance Using the Comet Laser Facility and Implications for Use on NIF," B. Beeman, A. G. MacPhee, J. R. Kimbrough, G. A. Lacaille, M. A. Barrios, J. Emig, J. R. Hunter, E. K. Miller, and W. R. Donaldson, presented at Optics and Photonics 2012, San Diego, CA, 12–16 August 2012.

"Photoaligned Liquid Crystal Devices for High-Peak-Power Laser Applications," K. L. Marshall, C. Dorrer, M. Vargas, A. Gnolek, M. Statt, and S.-H. Chen, presented at Optics and Photonics 2012, San Diego, CA, 12–16 August 2012.

"Direct-Drive Laser–Plasma Interaction Experiments," D. H. Froula, D. T. Michel, R. S. Craxton, D. H. Edgell, R. Follett, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, J. F. Myatt, P. B. Radha, T. C. Sangster, W. Seka, R. W. Short, A. A. Solodov, C. Stoeckl, and B. Yaakobi, presented at the European Physical Society 2012 Conference, Stockholm, Sweden, 2–6 July 2012.

"Hydrodynamic Modeling for Shock-Ignition Implosions and Simulations for Experiments on OMEGA," M. Lafon, X. Ribeyre, G. Schurtz, A. Casner, W. Theobald, R. Nora, M. Hohenberger, K. S. Anderson, R. Betti, C. Stoeckl, and D. D. Meyerhofer, presented at the European Physical Society 2012 Conference, Stockholm, Sweden, 2–6 July 2012.

"Multifrequency Smoothing by Spectral Dispersion on OMEGA EP for NIF Polar-Drive Implosions," A. V. Okishev, C. Dorrer, B. E. Kruschwitz, J. H. Kelly, E. Hill, A. Consentino, G. Balonek, J. A. Marozas, M. Hohenberger, A. Shvydky, R. G. Roides, R. Cuffney, W. Bittle, and J. D. Zuegel, presented at Laser Optics 2012, St. Petersburg, Russia, 25–29 June 2012.

"Analyses of Long-Scale-Length Plasma Experiments with Different Ablator Materials on the OMEGA EP Laser System," S. X. Hu, D. H. Edgell, D. H. Froula, V. N. Goncharov, D. T. Michel, S. Skupsky, and B. Yaakobi, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"The Effects of Beam Polarization on Convective and Absolute Two-Plasmon-Decay Driven by Multiple Laser Beams," R. W. Short, J. F. Myatt, A. V. Maximov, D. T. Michel, and D. H. Froula, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Experimental Validation of the Two-Plasmon-Decay Common-Wave Process," D. T. Michel, A. V. Maximov, B. Yaakobi, S. X. Hu, J. F. Myatt, A. A. Solodov, R. W. Short, and D. H. Froula, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Half-Integer Harmonic Images and Spectra Point Toward Localized, Multibeam Two-Plasmon Decay," W. Seka, D. H. Edgell, D. H. Froula, J. Katz, J. F. Myatt, J. Zhang, R. W. Short, T. D. Michel, A. V. Maximov, and V. N. Goncharov, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Hot-Electron Generation by 'Cavitating' Langmuir Turbulence in the Nonlinear Stage of the Two Plasmon Decay Instability," H. X. Vu, D. Russell, D. F. DuBois, and J. F. Myatt, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Interaction of Multiple Laser Beams via Common Waves and Beam Energy Transfer," A. V. Maximov, J. F Myatt, R. W Short, I. V. Igumenshchev, D. H. Edgell, and W. Seka,

presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Magnetohydrodynamic Effects in Ablatively Driven High-Energy-Density System Experiments," L. Gao, P. M. Nilson, I. V. Igumenshchev, J. R. Davies, S. X. Hu, C. Stoeckl, M. G. Haines, D. H. Froula, R. Betti, and D. D. Meyerhofer, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"The Mitigating Effect of Wave Dissipation on Hot-Electron Generation Caused by the Two-Plasmon Decay in Inhomogeneous Plasmas," J. F. Myatt, J. Zhang, V. N. Goncharov, A. V. Maximov, R. W. Short, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Mitigation of Cross-Beam Energy Transfer in Direct-Drive Plasmas," D. H. Froula, I. V. Igumenshchev, D. T. Michel, D. H. Edgell, R. Follett, V. Yu. Glebov, V. N. Goncharov, J. Marozas, P. B. Radha, W. Seka, C. Sorce, and C. Stoeckl, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Mitigation of Cross-Beam Energy Transfer in Polar-Drive Implosions," D. H. Edgell, P. B. Radha, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, J. F. Myatt, and W. Seka, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Simulations of Cone-in-Shell Targets for Integrated Fast-Ignition Experiments on OMEGA," A. A. Solodov, K. S. Anderson, W. Theobald, A. Shvydky, R. Betti, J. F. Myatt, and C. Stoeckl, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Thomson-Scattering Measurements of Ion-Acoustic Wave Amplitudes Driven by the Two-Plasmon Decay," R. K. Follett, D. T. Michel, J. F. Myatt, S. X. Hu, B. Yaakobi, and D. H. Froula, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Two-Plasmon-Decay Turbulence Driven by the Shared-Wave Triad of Two Crossed Beams," D. A. Russell, H. X. Vu, D. F. DuBois, and J. F. Myatt, presented at the 42nd Annual Anomalous Absorption Conference, Key West, FL, 25–29 June 2012.

"Dependence of Thermal Stresses on Substrate Thickness During Wet Processing of Large Coated Optics," H. P. Howard, J. C. Lambropoulos, and S. D. Jacobs, presented at the OSA Topical Meeting on Optical Fabrication and Testing, Monterey, CA, 24–28 June 2012.

"Glass Ductility and Fracture at the 50- to 100-nm Scale," J. C. Lambropoulos, K. Mehrotra, H. P. Howard, and S. D. Jacobs, presented at the OSA Topical Meeting on Optical Fabrication and Testing, Monterey, CA, 24–28 June 2012.

"Probing Ultrafast Processes in Intense Laser–Matter Interactions," S. X. Hu, V. N. Goncharov, S. Skupsky, L. A. Collins, M. J. N. Dijokap, A. F. Starace, and B. I. Schneider, presented at the 43rd Annual APS Division of Atomic, Molecular, and Optical Physics Meeting, Anaheim, CA, 4–8 June 2012.

"Considerations and Requirements for Providing Cryogenic Targets for Direct-Drive Inertial Fusion Implosions at the National Ignition Facility," D. R. Harding, M. D. Wittman, and D. H. Edgell, presented at the 20th Target Fabrication Meeting, Santa Fe, NM, 20–24 May 2012.

"Dielectrophoresis of Liquid Deuterium for IFE Target Filling," R. Q. Gram, D. R. Harding, and T. B. Jones, presented at the 20th Target Fabrication Meeting, Santa Fe, NM, 20–24 May 2012.

"Implementation of Dielectrophoretic Droplet Centering in a Miniaturized Centering Cell for ICF Foam Capsules," Z. Bei, G. Randall, T. B. Jones, and D. R. Harding, presented at the 20th Target Fabrication Meeting, Santa Fe, NM, 20–24 May 2012.

"Micron-Scaled Defects on Cryogenic Targets: An Assessment of Condensate Sources," W. T. Shmayda, D. R. Harding, V. Veersteg, C. Kingsley, M. Hallgren, and S. Loucks, presented at the 20th Target Fabrication Meeting, Santa Fe, NM, 20–24 May 2012.

"Overview of the Requirements and Construction of Targets for Experiments on OMEGA and OMEGA EP," M. J. Bonino, F. J. Marshall, D. H. Froula, S. P. Regan, D. Turner, D. R. Harding, S. G. Noyes, J. Fooks, and E. Giraldez, presented at the 20th Target Fabrication Meeting, Santa Fe, NM, 20–24 May 2012.

"Properties and Performance of Target Mounts for Cryogenic Experiments on OMEGA," D. Turner, M. J. Bonino, D. R. Harding, S. G. Noyes, and B. Rice, presented at the 20th Target Fabrication Meeting, Santa Fe, NM, 20–24 May 2012.

"Beam-Homogenization and Space-Charge–Broadening Calibration for Accurately Measuring High-Intensity Laser Pulses Using a High-Speed Streak Camera," J. Qiao, P. A. Jaanimagi, R. Boni, J. Bromage, and E. Hill, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"Broadband Operation of High-Damage-Threshold Phase and Polarization Binary Beam Shapers," C. Dorrer, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"A Cylindrical Öffner Stretcher for Reduced Chromatic Aberrations and Improved Temporal Contrast," J. Bromage, M. Millecchia, J. Bunkenburg, R. K. Jungquist, C. Dorrer, and J. D. Zuegel, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"Fiber Front End for an OMEGA EP Demonstration of Beam-Smoothing Techniques for NIF Polar-Drive Ignition," C. Dorrer, A. V. Okishev, R. G. Roides, R. Cuffney, W. Bittle, and J. D. Zuegel, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"A Front End for Ultra-Intense OPCPA," J. Bromage, C. Dorrer, M. Millecchia, J. Bunkenburg, R. Jungquist, and J. D. Zuegel, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"High-Damage-Threshold Components for Radially and Azimuthally Polarized Beam Generation," M. Statt, M. Vargas, J. B. Oliver, S. H. Chen, K. L. Marshall, and C. Dorrer, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"A Negative-Feedback-Stabilization System for an All-Fiber Regenerative Amplifier," R. Xin and J. D. Zuegel, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"Temporal Contrast Degradation at the Focus of Ultrashort Pulses from High-Frequency Spectral Phase Noise," J. Bromage, C. Dorrer, and R. K. Jungquist, presented at CLEO 2012, San Jose, CA, 6–11 May 2012.

"Compact Kirkpatrick–Baez Microscope Mirrors for Imaging Laser–Plasma X-Ray Emission," F. J. Marshall, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"High-Resolution Spectroscopy Used to Measure Inertial Confinement Fusion Neutron Spectra on OMEGA," C. J. Forrest, P. B. Radha, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, A. Pruyne, M. Romanofsky, T. C. Sangster, M. J. Shoup III, C. Stoeckl, D. T. Casey, M. Gatu-Johnson, and S. Gardner, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Neutron Spectra from 1 to 15 MeV Measured with Time-of-Flight Detectors at the National Ignition Facility," J. P. Knauer, V. Yu. Glebov, C. Forrest, C. Stoeckl, T. C. Sangster, D. D. Meyerhofer, J. A. Caggiano, M. J. Moran, R. Hatarik, J. M. McNaney, S. Friedrich, E. J. Bond, M. J. Eckart, S. J. Padalino, and J. D. Kilkenny, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Optical Diagnostic Suite (Schlieren, Interferometry, and Grid-Image Refractometry) on OMEGA EP Using a 10-ps, 263-nm Probe Beam," D. H. Froula, R. Boni, M. Bedzyk, R. S. Craxton, F. Ehrne, S. Ivancic, R. Jungquist, M. J. Shoup III, W. Theobald, D. Weiner, N. L. Kugland and M. C. Rushford, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"A Reflective Optical Transport System for Ultraviolet Thomson Scattering from Electron Plasma Waves on OMEGA," J. Katz, R. Boni, C. Sorce, R. Follett, M. J. Shoup III, and D. H. Froula, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Shell Trajectory Measurements from Direct-Drive Implosion Experiments," D. T. Michel, C. Sorce, R. Epstein, N. Whiting, I. V. Igumenshchev, R. Jungquist, and D. H. Froula, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"A Single-Shot, Multiwavelength Electro-Optic Data-Acquisition System for ICF Applications," W. R. Donaldson, C. Zhao, L. Ji, R. G. Roides, K. Miller, and B. Beeman, presented at 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Soft X-Ray Backlighting of Direct-Drive Implosions Using a Spherical Crystal Imager on OMEGA," C. Stoeckl, J. A. Delettrez, R. Epstein, G. Fiksel, D. Guy, M. Hohenberger, R. K. Jungquist, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"South Pole Bang-Time Diagnostic on the National Ignition Facility," D. H. Edgell, D. K. Bradley, E. J. Bond, S. Burns, D. A. Callahan, J. Celeste, M. J. Eckart, V. Yu. Glebov, D. S. Hey, G. Lacaille, J. D. Kilkenny, J. Kimbrough, A. J. Mackinnon, J. Magoon, J. Parker, T. C. Sangster, M. J. Shoup III, C. Stoeckl, T. Thomas, and A. MacPhee, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Streaked X-Ray Imaging of Ultrafast Ionization Waves Inside a Metal," P. M. Nilson, C. Stoeckl, G. Fiksel, P. A. Jaanimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D. D. Meyerhofer, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Streaked X-Ray Spectrometer Having a Discrete Selection of Bragg Geometries for Omega," M. Millecchia, S. P. Regan, R. E. Bahr, M. Romanofsky, and C. Sorce, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Testing a New NIF Neutron Time-of-Flight Detector with a Bibenzyl Scintillator on OMEGA," V. Yu. Glebov, C. Forrest, J. P. Knauer, A. Pruyne, M. Romanofsky, T. C. Sangster, M. J. Shoup III, C. Stoeckl, J. A. Caggiano, M. L. Carman, T. J. Clancy, R. Hatarik, J. McNaney, and N. P. Zautseva, presented at the 19th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 6–10 May 2012.

"Characterizing Debris-Shield Transmission Degradation and Estimating On-Target Energy," J. Kwiatkowski, S. Stagnitto, S. F. B. Morse, M. Labuzeta, and V. Guiliano, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Developing Magnetic Platforms for Inertial Confinement Fusion and Basic High-Energy-Density Science," G. Fiksel, P.-Y. Chang, M. Hohenberger, R. Betti, M. J. Shoup III, C. Taylor, T. Duffy, D. Lonobile, and W. Bittle, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Isotope Separation System and Gas Chromatograph Support Non-Standard Fills," W. T. Shmayda, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Laser Retroreflected and Reflected Light Management," R. Jungquist, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Omega EP Facility Update and Progress on OLUG Recommendations," D. Canning, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Omega Experimental Systems Performance and Improvements Since OLUG 2011," G. Pien and J. Puth, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Omega Facility Diagnostic Highlights," C. Sorce, M. Millecchia, D. Mastrosimone, A. Sorce, J. Katz, S. Ingraham, A. Pruyne, R. Bahr, D. Hassett, and D. Guy, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Omega Facility Updates: Progress on OLUG Recommendations," S. F. B Morse, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"OMEGA Performance Metrics and Status Update on OLUG Recommendations," S. Stagnitto, W. R. Donaldson, E. Hill, M. Labuzeta, and M. Millecchia, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"OMEGA Thomson-Scattering System Upgrade," J. Katz, R. Boni, D. H. Froula, G. Gates, A. Nauss, J. Szczepanski, M. J. Shoup III, and A. Agliata, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Optical Diagnostic Suite (Schlieren, Interferometry, and Grid Refractometry) on OMEGA EP Using a 10-ps, 263-nm Probe Beam," D. H. Froula, R. Boni, M. Bedzyk, R. Brown, R. S. Craxton, T. Duffy, F. Ehrne, S. Ivancic, R. Jungquist, N. Kugland, J. Puth, R. G. Roides, M. C. Rushford, W. Seka, M. J. Shoup III, W. Theobald, and D. Weiner, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Spherical Crystal X-Ray Imaging for OMEGA and OMEGA EP," C. Stoeckl, G. Fiksel, R. Jungquist, P. M. Nilson, and W. Theobald, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"X-Ray Thomson Scattering: An Incisive Probe for Warm, Dense Matter," S. P. Regan, G. Gregori, P. B. Radha, S. X. Hu, T. R. Boehly, B. Crowley, S. H. Glenzer, O. L. Landen, D. O. Gericke, T. Doeppner, D. D. Meyerhofer, C. D. Murphy, T. C. Sangster, and J. Vorberger, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 25–27 April 2012.

"Mechanical Characterization of 'Blister' Defects on Optical Oxide Multilayers Using Nanoindentation," K. Mehrotra, H. P. Howard, S. D. Jacobs, and J. C. Lambropoulos, presented at the 2012 Materials Research Society Spring Meeting and Exhibit, San Francisco, CA, 9–13 April 2012.

"Nanoindentation Probing of High-Aspect-Ratio Pillar Structures on Optical Multilayer Dielectric Diffraction Gratings," K. Mehrotra, H. P. Howard, S. D. Jacobs, and J. C. Lambropoulos, presented at the 2012 Materials Research Society Spring Meeting and Exhibit, San Francisco, CA, 9–13 April 2012.

"High-Energy-Density-Physics Research at the Omega Laser Facility," J. M. Soures, presented at the 2012 Stewardship Science Academic Alliances Symposium, Washington, DC, 22–23 February 2012.

"Rayleigh–Taylor Measurements in Planar Targets with CH and $SiO_2$ Ablators on OMEGA," J. D. Hager, J. P. Knauer, V. A. Smalyuk, T. J. B. Collins, J. A. Delettrez, S. X. Hu, D. D. Meyerhofer, and T. C. Sangster, presented at the NIF User Group Meeting, Livermore, CA, 12–15 February 2012.

"Compressing Magnetic Fields with High-Energy Lasers," J. P. Knauer, P.-Y. Chang, M. Hohenberger, G. Fiksel, F. J. Marshall, D. D. Meyerhofer, R. Betti, F. H. Séguin, and R. D. Petrasso, presented at the MAGLIF Workshop, Albuquerque, NM, 5–8 February 2012.

"Effect of Magnetic Fields on Neutron Emission from ICF Implosions," G. Fiksel, P.-Y. Chang, M. Hohenberger, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, R. Betti, F. H. Séguin, and R. D. Petrasso, presented at the MAGLIF Workshop, Albuquerque, NM, 5–8 February 2012.

"A Multiwavelength, Variable-Pulse-Width, Diode-Pumped Laser System," A. V. Okishev, C. Dorrer, Y. Fisher, and M. Pavia, presented at Solid State Lasers XXI: Technology and Devices, San Francisco, CA, 21–26 January 2012.

"LLE's Perspective on FY13–FY18 Planning," R. L. McCrory, presented at the ICF Executives Meeting, Albuquerque, NM, 18 January 2012.

**2011**

"Radiative Precursors and Temperature Measurements in Shock Deuterium," T. R. Boehly, V. N. Goncharov, W. Seka, S. X. Hu, J. A. Marozas, D. D. Meyerhofer, P. M. Celliers, D. G. Hicks, M. A. Barrios, D. E. Fratanduono, and G. W. Collins, presented at the International Collaboration on High Energy Density Science Workshop, Kanazawa, Japan, 25–29 November 2011.

"Refractive-Index Measurements of LiF Ramp Compressed to 800 GPa," T. R. Boehly, D. E. Fratanduono, M. A. Barrios, D. D. Meyerhofer, J. H. Eggert, D. G. Hicks, R. F. Smith, D. Braun, P. M. Celliers, and G. W. Collins, presented at the International Collaboration on High Energy Density Science Workshop, Kanazawa, Japan, 25–29 November 2011.

"Absorption by the Two-Plasmon-Decay Instability in Direct-Drive Implosions," W. Seka, I. V. Igumenshchev, D. H. Froula, D. H. Edgell, J. F. Myatt, R. W. Short, V. N. Goncharov, and A. V. Maximov, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Analysis of Diagnostic X-Ray Spectra of Implosions at the National Ignition Facility," R. Epstein, S. P. Regan, F. J. Marshall, T. C. Sangster, S. W. Hamlin, R. L. McCrory, D. D. Meyerhofer, B. A. Hammel, L. J. Suter, H. Scott, M. A. Barrios, D. A. Callahan, N. Izumi, N. B. Meezan, I. E. Golovkin, J. J. MacFarlane, R. C. Mancini, and K. J. Peterson, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Analysis of Laser-Imprinting Reduction in Spherical-RT Experiments with Si-/Ge-Doped Plastic Targets," S. X. Hu, G. Fiksel, V. N. Goncharov, S. Skupsky, and V. A. Smalyuk, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Convective Multibeam Two-Plasmon Decay for Spherical and Planar Irradiation Geometries," R. W. Short and J. F. Myatt, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Crossed-Beam Energy Transfer in Direct-Drive Implosions," I. V. Igumenshchev, W. Seka, D. H. Edgell, D. H. Froula, V. N. Goncharov, R. S. Craxton, L. Divol, R. Follett, J. H. Kelly, T. Z. Kosc, D. T. Michel, P. Michel, R. L. McCrory, A. V. Maximov, D. D. Meyerhofer, J. F. Myatt, T. C. Sangster, A. Shvydky, S. Skupsky, and C. Stoeckl, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011(invited).

"Cryogenic Deuterium–Tritium Implosions on OMEGA," V. N. Goncharov, T. C. Sangster, R. Epstein, S. X. Hu, I. V. Igumenshchev, D. H. Froula, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, and C. Stoeckl, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Cryogenic-DT-Implosion Performance with Improved Target-Surface Quality," T. C. Sangster, W. T. Shmayda, V. Versteeg, D. R. Harding, R. Janezic, V. N. Goncharov, D. H. Edgell, D. H. Froula, V. Yu. Glebov, S. X. Hu, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. F. Myatt, P. B. Radha, W. Seka, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu-Johnson, and R. D. Petrasso, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Cryogenic Shock-Ignition Target Designs for OMEGA," R. Nora, R. Betti, K. S. Anderson, W. Theobald, A. Casner, M. Lafon, X. Ribeyre, and G. Schurtz, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Energetic-Electron Generation in Two-Plasmon-Decay Instabilities in Inertial Confinement Fusion," R. Yan, A. V. Maximov, C. Ren, and F. S. Tsung, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Energy Transfer Between Crossing Laser Beams in the Plasmas of Direct-Drive ICF," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, D. H. Edgell, and W. Seka, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Experiments and Simulations of Laser-Driven Magnetized ICF Targets on OMEGA," P.-Y. Chang, G. Fiksel, M. Hohenberger, J. P. Knauer, R. Betti, F. H. Séguin, C. K. Li, M. E. Manuel, and R. D. Petrasso, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"First Results from the South Pole Bang Time (SPBT) Diagnostic on the NIF," D. H. Edgell, J. Magoon, T. C. Sangster, M. J. Shoup III, F. J. Marshall, C. Stoeckl, V. Yu. Glebov, A. MacPhee, G. Krauter, S. Burns, J. Celeste, M. J. Eckart, J. R. Kimbrough, J. D. Kilkenny, G. Lacaille, N. B. Meezan, J. Parker, Z. Sober, and M. Thayne, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Fusion-Yield Enhancement in Magnetized Laser-Driven Implosions," G. Fiksel, P.-Y. Chang, M. Hohenberger, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, R. Betti, F. H. Séguin, and R. D. Petrasso, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"High-Convergence-Ratio Polar-Drive Experiments on OMEGA," F. J. Marshall, P. B. Radha, R. Epstein, V. Yu. Glebov, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"High-Intensity Shock-Ignition Experiments in Planar Geometry," W. Theobald, M. Hohenberger, S. X. Hu, K. S. Anderson, R. Betti, T. R. Boehly, A. Casner, D. H. Edgell, D. E. Fratanduono, M. Lafon, D. D. Meyerhofer, R. Nora, X. Ribeyre, T. C. Sangster, G. Schurtz, W. Seka, C. Stoeckl, B. Yaakobi, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Hot-Spot Mix in Ignition-Scale Implosions at the National Ignition Facility," S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. J. Cerjan, G. W. Collins, S. N. Dixit, T. Doeppner, M. J. Edwards, D. R. Farley, S. Glenn, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks, N. Izumi, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, K. J. Peterson, T. C. Sangster, P. Springer, and R. P. J. Town, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011 (invited).

"Inertial Confinement Fusion Implosions with Seeded Magnetic Fields on OMEGA," M. Hohenberger, P.-Y. Chang, G. Fiksel, J. P. Knauer, D. D. Meyerhofer, R. Betti, F. J. Marshall, F. H. Séguin, and R. D. Petrasso, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011 (invited).

"Initial Channeling of a Kilojoule-Class Laser in Long-Scale-Length Plasmas," S. Ivancic, W. Theobald, C. Stoeckl, P. M. Nilson, T. C. Sangster, D. D. Meyerhofer, S. X. Hu, and L. Willingale, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Magnetic-Field Generation in Planar Plastic Targets on OMEGA EP," L. Gao, P. M. Nilson, I. V. Igumenshchev, S. X. Hu, C. Stoeckl, D. H. Froula, and D. D. Meyerhofer, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Measurement of the Areal Density (ρR) Using nT Elastic Backscattering on OMEGA," C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, and C. Stoeckl, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Measurements of DD Neutron Yield and Ion Temperature in DT Implosions on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, C. Forrest, J. P. Knauer, V. N. Goncharov, and P. B. Radha, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Measurements of Hot Electrons Produced by Two-Plasmon Decay in Near Direct-Drive–Ignition Plasma Conditions," D. T. Michel, B. Yaakobi, S. X. Hu, R. W. Short, J. F. Myatt, C. Stoeckl, D. H. Edgell, W. Seka, V. N. Goncharov, and D. H. Froula,

presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Measurements of an Increased Neutron Yield with Reduced CBET," D. H. Froula, I. V. Igumenshchev, D. T. Michel, C. Sorce, R. Follett, D. H. Edgell, W. Seka, and V. N. Goncharov, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Multiple Spherically Converging Shock Waves in Liquid Deuterium," T. R. Boehly, V. N. Goncharov, W. Seka, S. X. Hu, J. A. Marozas, D. D. Meyerhofer, P. M. Celliers, D. G. Hicks, M. A. Barrios, D. E. Fratanduono, G. W. Collins, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Neutron Spectra Measured with Time-of-Flight Detectors on the National Ignition Facility," J. P. Knauer, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, E. J. Bond, J. A. Caggiano, T. J. Clancy, M. J. Eckart, S. Friedrich, R. Hatarik, R. A. Lerche, A. J. Mackinnon, J. M. McNaney, M. J. Moran, D. H. Munro, S. J. Padalino, and J. D. Kilkenny, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Numerical Evaluation of Subtangential Focusing in OMEGA Target Implosions," P. W. McKenty, R. S. Craxton, F. J. Marshall, A. Shvydky, R. Epstein, A. M. Cok, J. A. Marozas, T. J. B. Collins, S. Skupsky, C. Stoeckl, T. C. Sangster, M. J. Bonino, R. Janezic, D. R. Harding, W. T. Shmayda, S. F. B. Morse, D. D. Meyerhofer, and R. L. McCrory, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Polar-Drive Designs for OMEGA," P. B. Radha, F. J. Marshall, T. R. Boehly, T. J. B. Collins, R. S. Craxton, R. Epstein, V. N. Goncharov, J. A. Marozas, R. L. McCrory, D. D. Meyehofer, A. Shvydky, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"A Polar-Drive–Ignition Design for the National Ignition Facility," T. J. B. Collins, J. A. Marozas, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, V. N. Goncharov, D. R. Harding, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, P. W. McKenty, P. B. Radha, A. Shvydky, S. Skupsky, J. D. Zuegel, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011 (invited).

"Preheat Studies Using Low-Adiabat Plastic-Shell Implosions with Triple-Picket Pulses on OMEGA," C. Stoeckl, P. B. Radha, R. E. Bahr, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, I. V. Igumenshchev, T. C. Sangster, W. Seka, J. A. Frenje, and R. D. Petrasso, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Preparing for OMEGA EP Validation of 1-D Multi-FM SSD for the NIF," A. Shvydky, P. W. McKenty, M. Hohenberger, G. Fiksel, T. J. B. Collins, J. A. Marozas, J. D. Zuegel, and T. C. Sangster, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Refractive Index of Lithium Fluoride Ramp Compressed to 800 GPa," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, J. H. Eggert, D. G. Hicks, R. F. Smith, D. Braun, P. M. Celliers, and G. W. Collins, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011 (invited).

"A Self-Consistent Quasilinear Model for the Two-Plasmon-Decay Instability in Inhomogeneous Plasmas," J. F. Myatt, J. Zhang, A. V. Maximov, R. W. Short, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Simulations of Implosion Core Heating for Integrated Cone-in-Shell Fast-Ignition Experiments on OMEGA," A. A. Solodov, K. S. Anderson, A. Shvydky, W. Theobald, R. Betti, J. F. Myatt, and C. Stoeckl, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Simulations of Shock-Ignition Targets for the NIF," K. S. Anderson, R. Betti, P. W. McKenty, T. J. B. Collins, R. S. Craxton, J. A. Marozas, R. Nora, S. Skupsky, and L. J. Perkins, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Status of the OMEGA EP Laser System," D. D. Meyerhofer, S.-W. Bahk, J. Bromage, C. Dorrer, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, S. F. B. Morse, J. Qiao, C. Stoeckl, L. J. Waxer, and J. D. Zuegel, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Study of Dependence of Fast Electron Transport on Target Material Using the 10 ps, 1.5 kJ Omega EP Laser," A. Sorokovikova, M. S. Wei, R. B. Stephens, J. Jaquez, R. Nishra, H. Sawada, W. Theobald, P. Patel, H. McLean, Y. Sentoku, and F. N. Beg, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Three-Dimensional Distributions of Scattered Light in NIF 'Exploding-Pusher' Polar-Drive Experiments," R. S. Craxton, P. W. McKenty, E. J. Bond, S. Le Pape, A. J. MacKinnon, P. A. Michel, and J. D. Moody, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Three-Dimensional Numerical Investigation of Oblique Laser Irradiation of Planar Targets," J. A. Delettrez, W. Seka, D. H. Froula, and T. J. B. Collins, presented at the

53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"Two-Dimensional Analysis of Crossed-Beam Energy Transfer (CBET) in Direct-Drive ICF Target Implosions," J. A. Marozas, T. J. B. Collins, D. H. Edgell, I. V. Igumenshchev, and J. F. Myatt, presented at the 53rd Annual Meeting of the APS Division of Plasma Physics, Salt Lake City, UT, 14–18 November 2011.

"A Front End for Ultra-Intense OPCPA," J. Bromage, C. Dorrer, M. Millecchia, J. Bunkenburg, R. K. Jungquist, and J. D. Zuegel, presented at Light at Extreme Intensities, Szeged, Hungary, 14–18 November 2011.

"The Optics of Inertial Confinement Fusion," J. H. Kelly, presented at the The Institute of Optics Colloquium, Rochester, NY, 31 October 2011.

"High-Speed Diamond Detectors for Fast-Neutron Analysis of Inertial Confinement Fusion," S. Friedrich, T. J. Clancy, M. J. Eckart, M. J. Shoup III, T. Buczek, and V. Yu. Glebov, presented at the IEEE Nuclear Science Symposium, Valencia, Spain, 23–29 October 2011.

"Studies of Magnetized and HED Plasmas—Recent Results and Future Plans," G. Fiksel, A. Bhattacharjee, W. Fox, R. Betti, P.-Y. Chang, M. Hohenberger, and P. M. Nilson, presented at the Center for Magnetized Self-Organization Meeting, Durham, NH, 17–20 October 2011.

"Characterizing Debris-Shield Transmission Degradation and Estimating On-Target Energy," S. J. Stagnitto, J. Kwiatkowski, S. F. B. Morse, M. Labuzeta, and V. Guiliano, presented at the 8th International Laser Operations Workshop, Aldermaston, U.K., 4–6 October 2011.

"OMEGA EP Focal-Spot Improvement Activities," B. E. Kruschwitz, M. D. Moore, and R. Jungquist, presented at the 8th International Laser Operations Workshop, Aldermaston, U.K., 4–6 October 2011.

"OMEGA EP Grating Compressor Chamber Operations," D. Canning, S. F. B. Morse, J. Qiao, T. Nguyen, B. E. Kruschwitz, and A. Kalb, presented at the 8th International Laser Operations Workshop, Aldermaston, U.K., 4–6 October 2011.

"Omega Facility Status and Performance," J. Puth, presented at the 8th International Laser Operations Workshop, Aldermaston, U.K., 4–6 October 2011.

"A Polar-Drive-Irradiation Platform for NIF is Being Developed Using OMEGA," S. F. B. Morse, presented at the 8th International Laser Operations Workshop, Aldermaston, U.K., 4–6 October 2011.

"All-Fiber Directly Chirped Laser Source (DCLS) for Chirped-Pulse Amplification," R. Xin and J. D. Zuegel, presented at Ultrafast Optics 2011, Monterey, CA, 26–30 September 2011.

"A Cylindrical Öffner Stretcher Design for Reduced Chromatic Aberrations and Improved Temporal Contrast in Ultrafast Laser Systems," J. Bromage, M. Millecchia, J. Bunkenburg, R. K. Jungquist, C. Dorrer, and J. D. Zuegel, presented at Ultrafast Optics 2011, Monterey, CA, 26–30 September 2011.

"Interferometric Techniques for Optical-Pulse Characterization," C. Dorrer, presented at Ultrafast Optics 2011, Monterey, CA, 26–30 September 2011.

"Measuring Short Pulse Using a High-Speed Streak Camera on Kilojoule, Petawatt-Class Laser Systems," J. Qiao, P. A. Jaanimagi, R. Boni, J. Bromage, and E. Hill, presented at Ultrafast Optics 2011, Monterey, CA, 26–30 September 2011.

"Temporal Contrast Degradation at the Focus of Ultrafast Pulses from High-Frequency Spectral Phase Modulation," J. Bromage, C. Dorrer, and R. K. Jungquist, presented at Ultrafast Optics 2011, Monterey, CA, 26–30 September 2011.

"Laser–Plasma Interactions in Direct-Drive Implosions," D. H. Froula, presented at Assessment of Inertial Confinement Fusion Targets, Washington, DC, 20–21 September 2011.

"Collisionless Shocks in Laser Driven Laboratory High Energy Density Plasmas," H.-S. Park, N. Kugland, S. Ross, B. Remington, S. Pollaine, D. Ryutov, A. Spitkovsky, L. Gargate, G. Gregori, A. Bell, C. Murphy, Y. Sakawa, Y. Kuramitsu, H. Takabe, D. Froula, G. Fiksel, F. Miniati, M. Koenig, A. Ravasio, E. Liang, N. Woolsey, and M. Grosskopf, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Diagnosing Implosions at the National Ignition Facility with X-Ray Spectroscopy," S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, D. Callahan, C. Cerjan, G. W. Collins, S. N. Dixit, J. Edwards, D. R. Farley, S. Glenn, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks, N. Izumi, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, K. J. Peterson, T. C. Sangster, P. Springer, and R. P. J. Town, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Diagnosis Development for Plasma Experiments on LMJ," A. Richard, V. Allouche, E. Alozy, F. Aubard, S. Bazzoli, T. Beck, J. Baggio, J. L. Bourgade, J. Y. Boutin, M. Briat, S. Brygoo, T. Caillaud, C. Cherfils, C. Chollet, P. Combis, S. Darbon, D. Dennettière, J. L. Desmeuzes, A. Duval, J. Fariat, J. Favier, S. Gary, J. Gazave, S. Girard, V. Glebov, J. C. Gomme, D. Gontier, O. Henry, S. Huevlan, H. P. Jacquet, J. P. Jadaud, O. Landoas, P. Llavador, B. Marchet, R. Marmoret, R. Maroni, I. Masclet-Gobin, D. D. Meyerhofer, J.

P. Le Breton, G. Oudot, S. Perez, G. Pien, J. Raimbourg, C. Reverdin, P. Romary, R. Rosch, B. Rosse, A. Rousseau, D. Rubin de Cervens, T. C. Sangster, C. Schoech, P. Semécurbe, G. Souillé, P. Stemmler, C. Stoeckl, I. Thfoin, C. Trosseille, P. Troussel, J. L. Ulmer, L. Videau, B. Villette, R. Wrobel, and C. Zuber, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"High-Accuracy Ion-Temperature and Areal-Density Measurements with the NIF nTOF Suite," T. C. Sangster, E. J. Bond, J. A. Caggiano, D. T. Casey, M. J. Eckart, J. A. Frenje, S. Friedrich, M. Gatu-Johnson, V. Yu. Glebov, E. P. Hartouni, R. Hatarik, S. P. Hatchett, H. W. Herrmann, C. J. Horsfield, M. Hutton, J. D. Kilkenny, J. P. Knauer, R. A. Lerche, J. McNaney, M. J. Moran, D. H. Munro, S. J. Padalino, P. K. Patel, D. Schneider, and C. Stoeckl, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Polar-Drive Beam Smoothing for Direct-Drive Ignition on the National Ignition Facility," J. D. Zuegel, C. Dorrer, I. A. Begishev, R. Cuffney, T. J. B. Collins, E. Hill, J. H. Kelly, B. E. Kruschwitz, J. A. Marozas, P. W. McKenty, A. V. Okishev, R. G. Roides, D. F. Browning, G. V. Erbert, and M. W. Bowers, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Polar Drive on OMEGA," P. B. Radha, F. J. Marshall, T. R. Boehly, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, J. A. Frenje, V. N. Goncharov, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, R. D. Petrasso, T. C. Sangster, A. Shvydky, and S. Skupsky, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Preparing for Polar-Drive Ignition on the NIF," P. W. McKenty, T. J. B. Collins, J. A. Marozas, T. J. Kessler, J. D. Zuegel, M. J. Shoup III, R. S. Craxton, F. J. Marshall, A. Shvydky, S. Skupsky, V. N. Goncharov, P. B. Radha, R. Epstein, T. C. Sangster, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, M. L. Hoppe, M. M. Marinak, A. J. MacKinnon, M. J. Schmitt, P. A. Bradley, G. R. Magelssen, and T. J. Murphy, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Progress in Direct-Drive Inertial Confinement Fusion," R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, D. H. Froula, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, P. W. McKenty, T. Michel, P. M. Nilson, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, J. A. Frenje, D. T. Casey, C. K. Li, R. D. Petrasso, F. H. Séguin, S. P. Padalino, K. A. Fletcher, P. M. Celliers, G. W. Collins, and H. F. Robey, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"Progress in the Shock-Ignition Inertial Confinement Fusion Concept," W. Theobald, A. Casner, R. Nora, X. Ribeyre, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, O. V. Gotchev, M. Hohenberger, M. Lafon, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, L. J. Perkins, T. C. Sangster, G. Schurtz, W. Seka, V. A. Smalyuk, C. Stoeckl, and B. Yaakobi, presented at the 7th International Conference on Inertial Fusion Sciences and Applications, Bordeaux, France, 12–16 September 2011.

"MRF with Adjustable pH," S. D. Jacobs, presented at Optical Fabrication, Testing and Metrology IV, Marseille, France, 5–8 September 2011.

"Liquid Crystal Beam-Shaping Devices Employing Patterned Photoalignment Layers for High-Peak-Power Laser Applications," K. L. Marshall, S. K.-H. Wei, M. Vargas, K. Wegman, C. Dorrer, P. Leung, J. Boule III, Z. Zhao, and S. H. Chen, presented at SPIE Optics and Photonics, Liquid Crystals XV, San Diego, CA, 21–25 August 2011.

"Diagnosing Implosions at the National Ignition Facility with X-Ray Spectroscopy," S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, G. W. Collins, S. Dixit, M. J. Edwards, D. R. Farley, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks, N. Izumi, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. MacKinnon, R. C. Mancini, F. J. Marshall, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, K. J. Peterson, T. C. Sangster, P. Springer, and R. P. J. Town, presented at the 17th International Conference on Atomic Processes and Plasmas, Belfast, Ireland 19–22 July 2011.

"ICF Research at the Laboratory for Laser Energetics: The Path to Polar-Drive Ignition," P. W. McKenty, presented at JOWOG 37, Aldermaston, United Kingdom, 11–15 July 2011.

"Diagnostics for High-Energy-Density Physics," D. D. Meyerhofer, presented at the HEDP Summer School, San Diego, CA, 10–16 July 2011.

"Hydrodynamic Simulation of Laboratory Astrophysics Experiments Generating Collisionless Shocks With Intense Lasers," M. J. Grosskopf, R. P. Drake, C. C. Kuranz, E. M. Rutter, H. S. Park, N. Kugland, S. Pollaine, S. Ross, B. A. Remington, D. Ryutov, A. Spikovsky, L. Gargate, G. Gregori, A. Bell, C. Murphy, Y. Sakawa, Y. Kuramitsu, H. Takabe, D. Froula, G. Fiksel, F. Miniati, M. Koenig, A. Ravasio, E. Liang, and N. Woolsey, presented at Interrelationship Between Plasma Experiments in Laboratory and Space, Whistler, Canada, 10–15 July 2011.

"Direct-Drive Progress on OMEGA," T. C. Sangster, presented at the NAS/NAE ICF Targets Panel, Rochester, NY, 6–8 July 2011.

"Facilitating NIF Polar Drive," D. D. Meyerhofer, presented at the NAS/NAE ICF Targets Panel, Rochester, NY, 6–8 July 2011.

"Laser–Plasma Interaction in Direct-Drive Implosions," D. H. Froula, presented at the NAS/NAE ICF Targets Panel, Rochester, NY, 6–8 July 2011.

"Overview of LLE's ICF Program," R. L. McCrory, presented at the NAS/NAE ICF Targets Panel, Rochester, NY, 6–8 July 2011.

"Polar-Drive Target Design," P. B. Radha, presented at the NAS/NAE ICF Targets Panel, Rochester, NY, 6–8 July 2011.

"Shock and Fast Ignition," D. D. Meyerhofer, presented at the NAS/NAE ICF Targets Panel, Rochester, NY, 6–8 July 2011.

"Shock-Timing Measurements in ICF Targets Filled with Cryogenic Deuterium," T. R. Boehly, V. N. Goncharov, M. A. Barrios, D. E. Fratanduono, S. X. Hu, T. J. B. Collins, J. A. Marozas, T. C. Sangster, D. D. Meyerhofer, P. M. Celliers, H. F. Robey, D. G. Hicks, and G. W. Collins, presented at the 2011 APS Shock Compression of Condensed Matter, Chicago, IL, 26 June–1 July 2011.

"Neutron Time-of-Flight Measurements on the National Ignition Facility," J. P. Knauer, V. Yu. Glebov, C. Stoeckl, T. C. Sangster, D. D. Meyerhofer, J. A. Caggiano, M. J. Moran, R. Hatarik, J. M. McNaney, S. Friedrich, E. J. Bond, M. J. Eckart, S. J. Padalino, and J. D. Kilkenny, presented at the 38th IEEE International Conference on Plasma Science, Chicago, IL, 26–30 June 2011.

"Controlling the Divergence of Laser-Generated Fast Electrons Through Resistivity Gradients in Fast-Ignition Targets," A. A. Solodov, R. Betti, K. S. Anderson, J. F. Myatt, W. Theobald, and C. Stoeckl, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Convective Multibeam Two-Plasmon Decay for Beam Configurations Relevant to Polar Direct Drive," R. W. Short and J. F. Myatt, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Crossed-Beam Energy Transfer in Polar Direct-Drive Implosions," D. H. Edgell, I. V. Igumenshchev, W. Seka, J. F. Myatt, V. N. Goncharov, R. S. Craxton, J. A. Delettrez, A. V. Maximov, R. W. Short, P. W. McKenty, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Energetic Electron Generation in Two-Plasmon-Decay Instabilities in Direct-Drive Inertial Confinement Fusion," R. Yan, A. V. Maximov, C. Ren, and F. S. Tsung, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Evaluation of a Quasilinear Model for the Two-Plasmon-Decay Instability in Inhomogeneous Plasmas," J. F. Myatt, J. Zhang, A. V. Maximov, R. W. Short, D. F.

DuBois, D. A. Russell, and H. X. Vu, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Langmuir Turbulence and Suprathermal Electron Production from the Two-Plasmon Decay Instability Driven by Crossed Laser Beams in an Inhomogeneous Plasma," H. X. Vu, D. F. DuBois, J. F. Myatt, and D. A. Russell, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Modeling of Energy Transfer Between Spatially Incoherent Crossing Laser Beams," A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, D. H. Edgell, and W. Seka, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Reducing the Cross-Beam Energy Transfer in Direct-Drive Implosion Targets Through Laser-Irradiation Control," W. Seka, I. V. Igumenshchev, D. H. Froula, D. H. Edgell, J. F. Myatt, V. N. Goncharov, R. W. Short, and A. V. Maximov, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Simulations and Analyses of Long-Scale-Length Plasma Experiments on the Omega EP Laser Facility," S. X. Hu, D. H. Edgell, D. H. Froula, V. N. Goncharov, W. Seka, S. Skupsky, and B. Yaakobi, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Strong Langmuir Turbulence in the Nonlinear Saturation of Parametric Instabilities Driven by Coherent Electromagnetic Waves," S. F. DuBois, D. A. Russell, H. X. Vu, and J. F. Myatt, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Thomson Scattering Study of the Coronal Plasma Conditions in Direct-Drive Implosions," D. H. Froula, D. H. Edgell, I. V. Igumenshchev, P. B. Radha, and V. N. Goncharov, presented at the 41st Annual Anomalous Absorption Conference, San Diego, CA, 19–24 June 2011.

"Diffractive Optics Technology for ICF," T. J. Kessler, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"High-Damage Threshold Coating for ICF Laser Applications," J. B. Oliver and A. L. Rigatti, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"Laser-driven Inertial Fusion Energy: Direct-Drive Targets Overview," R. L. McCrory, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"Modeling of Cryogenic Implosions on OMEGA is Approaching Precision Required for Ignition," V. N. Goncharov, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"New Laser Technologies for OMEGA EP," J. D. Zuegel, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"The Omega Facility is Operated as a User Facility and has Produced the World's Largest ICF Physics and High-Energy-Density-Science Database," J. M. Soures, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"Shock-Ignition and Fast-Ignition Research at LLE," W. Theobald, presented at the NAS/NAE Committee on the Prospects for IFE Systems, Rochester, NY, 17 June 2011.

"Fusion-Yield Enhancement in Magnetized Laser-Driven Implosions," G. Fiksel, P.-Y. Chang, M. Hohenberger, J. P. Knauer, R. Betti, F. J. Marshall, D. D. Meyerhofer, F. H. Séguin, and R. D. Petrasso, presented at the Third International Conference on High Energy Density Physics, Lisbon, Portugal, 17–20 May 2011.

"National Ignition Facility (NIF) Implosions: Hydrodynamic Mixing Experiments," S. P. Regan, R. Epstein, B. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, G. W. Collins, S. Dixit, M. J. Edwards, D. R. Farley, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks., N. Izumi, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, K. J. Peterson, T. C. Sangster, P. Springer, and R. P. J. Town, presented at the Third International Conference on High Energy Density Physics, Lisbon, Portugal, 17–20 May 2011.

"The Velocity and Timing of Multiple Spherically Converging Shock Waves in Liquid Deuterium," T. R. Boehly, presented at the Third International Conference on High Energy Density Physics, Lisbon, Portugal, 17–20 May 2011.

"The Engineer's Notebook," C. Robillard, presented at Siemens PLM Connection, Las Vegas, NV, 2–5 May 2011.

"TDM to Teamcenter Meta Data Migration Strategy," T. Smith, presented at Siemens PLM Connection, Las Vegas, NV, 2–5 May 2011.

"Amplification to the Period-Doubling Limit in an All-Fiber Regenerative Amplifier for High-Intensity Laser Systems," R. Xin and J. D. Zuegel, presented at CLEO 2011, Baltimore, MD, 1–6 May 2011.

"Characterization of a High-Contrast Front-End Prototype for the Omega EP Laser Facility," C. Dorrer, presented at CLEO 2011, Baltimore, MD, 1–6 May 2011.

"Direct Estimation of the Intensity Contrast of High-Energy Laser Pulses," C. Dorrer, A. Consentino, and D. Irwin, presented at CLEO 2011, Baltimore, MD, 1–6 May 2011.

"A Highly Efficient Diode-Pumped Pulsed Laser Based on Room-Temperature Yb:YAG Ceramics," A. V. Okishev, presented at CLEO 2011, Baltimore, MD, 1–6 May 2011.

"The OMEGA EP $4\omega$ Probe and Associated Plasma Diagnostics," D. H. Froula, M. Bedzyk, R. Boni, R. Brown, R. S. Craxton, T. Duffy, F. Ehrne, S. Ivancic, R. Jungquist, J. Puth, W. Seka, M. J. Shoup, III, C. Stoeckl, W. Theobald, D. Weiner, and N. Kugland, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2011.

"OMEGA Experimental Operations 2011 OLUG Status Report," G. Pien, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2011.

"Omega Facility Update: Progress on OLUG Recommendations," S. F. B. Morse, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2011.

"Overview of the Current Status of Shock Ignition," P. W. McKenty, K. S. Anderson, R. Nora, C. Stoeckl, W. Theobald, J. Bates, A. Schmitt, M. Lafon, X. Ribeyre, G. Schurtz, S. Weber, V. Tykhonchuk, S. Atzeni, J. Perkins, and O. Klimo, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2011.

"Static Wavefront Correction on OMEGA EP," B. E. Kruschwitz, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2011.

"Tuning Low-Adiabat Cryogenic Implosions on OMEGA," V. N. Goncharov, presented at the Omega Laser Facility Users Group Workshop, Rochester, NY, 27–29 April 2011.

"Fluence Dependency of the 400-nm Ablation Rates of Supra- and Sugingival Dental Calculus," J. E. Schoenly, W. Seka, and P. Rechmann, presented at the American Society of Laser Medicine and Surgery 2011 Annual Conference, Grapevine, TX, 30 March–3 April 2011.

"Backlighting of OMEGA Polar-Drive Experiments," F. J. Marshall, P. B. Radha, and A. Shvydky, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Demonstrating Polar-Drive Smoothing Technology for the NIF on OMEGA EP," J. D. Zuegel, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Modeling of OMEGA Shock-Ignition Experiments," K. S. Anderson, W. Theobald, R. Nora, R. Betti, G. Schurtz, X. Ribeyre, and M. Lafron, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Numerical Investigation of NIF Diagnostic Commissioning Experiments on OMEGA," A. Shvydky, P. W. McKenty, F. J. Marshall, R. S. Craxton, J. A. Marozas, R. Epstein, S. Skupsky, and R. L. McCrory, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"An Overview of Shock Ignition," R. Betti, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Phase and Polarization Plates for NIF Polar Drive," T. J. Kessler, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Picket Pulses with 1-D Multi-FM Smoothing by Spectral Dispersion (SSD) for the NIF Drive," J. A. Marozas, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"A Plastic-Ablator Cryogenic Shock-Ignition Design for the NIF," K. S. Anderson, R. Nora, and R. Betti, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Polar-Drive Hot-Spot Ignition on the NIF," T. J. B. Collins, J. A. Marozas, A. Shvydky, R. S. Craxton, and P. W. McKenty, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Results from Polar-Drive OMEGA Experiments," P. B. Radha, F. J. Marshall, R. S. Craxton, and A. Shvydky, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Results of Polar-Drive, Exploding-Pusher Shots on the NIF," P. W. McKenty, R. S. Craxton, F. J. Marshall, A. Shvydky, R. Epstein, A. M. Cok, J. A. Marozas, T. J. B. Collins, S. Skupsky, C. Stoeckl, T. C. Sangster, M. J. Bonino, R. Janezic, D. R. Harding, W. T. Shmayda, S. F. B. Morse, D. D. Meyerhofer, R. L. McCrory, A. Nikroo, J. D. Kilkenny, M. L. Hoppe, J. Fooks, A. J. MacKinnon, S. LePape, R. J. Wallace, D. K. Bradley, and G. A. Kyrala, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Shock-Ignition Experiments on OMEGA," W. Theobald, M. Hohenberger, R. Nora, K. S. Anderson, R. Betti, T. R. Boehly, D. E. Fratanduono, J. A. Frenje, S. X. Hu, D. D. Meyerhofer, T. C. Sangster, W. Seka, C. Stoeckl, B. Yaakobi, A. Casner, X. Ribeyre, and G. Schurtz, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Three-Dimensional Design of a 96-Beam NIF Target to Test the Compression Phase of Shock Ignition," R. S. Craxton, L. Tucker, T. Mo, K. S. Anderson, R. Betti, L. J. Perkins, G. P. Schurtz, X. Ribeyre, and A. Casner, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Three-Dimensional Distributions of Deposited Energy and Scattered Light in NIF 'Exploding-Pusher' Polar-Drive Experiments," R. S. Craxton, P. W. McKenty, E. Bond, S. LePape, A. J. MacKinnon, P. A. Michel, and J. D. Moody, presented at the International Workshop on ICF Shock Ignition, Rochester, NY, 8–10 March 2011.

"Hot-Electron Lifetime Measurements," P. M. Nilson, R. Betti, J. A. Delettrez, L. Gao, P. A. Jaanimagi, J. F. Myatt, T. C. Sangster, A. A. Solodov, C. Stoeckl, W. Theobald, B. Yaakobi, J. D. Zuegel, A. J. MacKinnon, and P. K. Patel, presented at the Fusion Science Center for Extreme States of Matter 10th Meeting, Rochester, NY, 7 March 2011.

"All-Fiber Regenerative Amplifier for Nanosecond Optical Pulses at 1053 nm," R. Xin and J. D. Zuegel, presented at Advanced Solid-State Photonics, Istanbul, Turkey, 13–16 February 2011.

"Novel Actively Cooled Split-Disk Nd:glass Laser Amplifier for High-Energy Applications with Improved Repetition Rate," J. D. Zuegel, M. J. Shoup, III, J. H. Kelly, and C. Frederickson, presented at Advanced Solid-State Photonics, Istanbul, Turkey, 13–16 February 2011.

"Temporal Contrast Measurements of a Noncollinear Optical Parametric Amplifier Seeded by White-Light Continuum," J. Bromage, C. Dorrer, and J. D. Zuegel, presented at Advanced Solid-State Photonics, Istanbul, Turkey, 13–16 February 2011.

"Lasers at the University of Rochester's Laboratory for Laser Energetics: Laser Fusion to Ultra-Intense Lasers," J. D. Zuegel and J. Bromage, presented at the ETH-Hönggerberg Seminar, Zurich, Switzerland, 10 February 2011.

"Improvements to Long-Pulse System Performance and Operational Efficiency on OMEGA EP," M. J. Guardalben and L. J. Waxer, presented at LASE—SPIE Photonics West, San Francisco, CA, 22–27 January 2011.

"Opportunities for Inertial Fusion and High-Energy-Density Physics Research at the National Laser Users' Facility," J. M. Soures, presented at LASE—SPIE Photonics West, San Francisco, CA, 22–27 January 2011.

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"The University of Rochester's Laboratory for Laser Energetics' Role in Inertial Fusion Energy Development," J. M. Soures and R. L. McCrory, presented at the 31st Fusion

Power Associates Annual Meeting and Symposium, Washington, DC, 1–2 December 2010.

"Microfluidic Methods for Producing Millimeter-Size Fuel Capsules for Inertial Fusion," D. R. Harding, T. B. Jones, Z. Bei, W. Wang, S. H. Chen, R. Q. Gram, M. Moynihan, and G. Randall, presented at the 2010 Materials Research Society Fall Meeting, Boston, MA, 29 November–3 December 2010.

"Initial Experiments on the OMEGA EP High-Energy Petawatt Laser System," D. D. Meyerhofer, K. S. Anderson, S.-W. Bahk, R. Betti, T. R. Boehly, J. Bromage, R. S. Craxton, C. Dorrer, J. A. Delettez, L. Gao, V. Yu. Glebov, P. A. Jaanimagi, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, F. J. Marshall, K. L. Marshall, R. L. McCrory, S. F. B. Morse, J. F. Myatt, P. M. Nilson, J. Qiao, T. C. Sangster, W. Seka, A. A. Solodov, C. Stoeckl, L. J. Waxer, W. Theobald, B. Yaakobi, J. D. Zuegel, J. A. Frenje, N. Sinenian, H. Habara, K. A. Tanaka, A. J. MacKinnon, H. Chen, P. K. Patel, F. N. Beg, T. Ma, K. U. Akli, R. B. Stephens, L. Willingale, and K. M. Krushelnick, presented at the International Symposium on Chirped Pulse Amplification, Quebec City, Canada, 17–21 November 2010.

"Angular Dependence of Two-Plasmon Decay in Multibeam Direct-Drive Irradiation Geometries," R. W. Short, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Areal Density and Ion-Temperature Measurements in Cryogenic-DT Implosions on OMEGA," T. C. Sangster, V. N. Goncharov, R. Betti, T. R. Boehly, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, S. X. Hu, J. P. Knauer, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, and D. T. Casey, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Competitive Laser–Plasma Interaction Processes Near Quarter Critical Relevant to Direct-Drive ICF," W. Seka, D. H. Froula, D. H. Edgell, R. E. Bahr, J. F. Myatt, J. A. Delettrez., R. S. Craxton, S. X. Hu, A. V. Maximov, and R. W. Short, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Controlling the Divergence of Laser-Generated Fast Electrons Through Resistivity Gradients in Fast-Ignition Targets," A. A. Solodov, R. Betti, K. S. Anderson, J. F. Myatt, W. Theobald, and C. Stoeckl, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"A CVD Diamond-Based Proton-Bang-Time Detector for OMEGA and the NIF," H. Rinderknecht, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Development of a Spherical Crystal X-Ray-Imaging Diagnostic for OMEGA and OMEGA EP," G. Fiksel, R. Jungquist, C. Mileham, P. M. Nilson, W. Theobald, and C. Stoeckl, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"The Effect of Nonuniformity Growth on Direct-Drive Plastic-Shell Implosions on the OMEGA Laser," P. B. Radha, C. Stoeckl, J. P. Knauer, V. N. Goncharov, I. V. Igumenshchev, R. L. McCrory, D. D. Meyerhofer, T. C. Sangster, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"The Equation-of-State Dependence of Nonuniformity Growth in Cryogenic-DT Implosions on OMEGA," S. X. Hu, V. N. Goncharov, T. R. Boehly, S. Skupsky, T. C. Sangster, D. D. Meyerhofer, and R. L. McCrory, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Evaluation of the First Polar-Drive, DT-Gas–Filled Target Implosions on the NIF," P. W. McKenty, R. S. Craxton, F. J. Marshall, A. Shvydky, R. Epstein, A. M. Cok, J. A. Marozas, T. J. B. Collins, S. Skupsky, C. Stoeckl, T. C. Sangster, M. J. Bonino, R. T. Janecek, D. R. Harding, W. T. Shmayda, S. F. B. Morse, D. D. Meyerhofer, R. L. McCrory, A. Nikroo, J. D. Kilkenny, M. L. Hoppe, J. Fooks, A. J. MacKinnon, R. J. Wallace, D. K. Bradley, and G. A. Kyrala, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"First Measurements of the Absolute Neutron Spectrum Using the Magnetic Recoil Spectrometer (MRS) at the NIF," J. A. Frenje, D. T. Casey, C. K. Li, F. H. Séguin, R. D. Petrasso, R. Bionta, C. Cerjan, M. Eckart, S. W. Haan, S. P. Hatchett, H. Kather, J. D. Kilkenny, O. L. Landen, A. J. MacKinnon, M. J. Moran, J. R. Rygg, V. Yu. Glebov, T. C. Sangster, D. D. Meyerhofer, K. Fletcher, and R. Leeper, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Hard X-ray Compton Radiography of Cryogenic Implosions on OMEGA," R. Epstein, S. P. Regan, F. J. Marshall, J. A. Delettrez, V. N. Goncharov, S. X. Hu, P. W. McKenty, G. Liu, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, C. Stoeckl, W. Theobald, R. Tommasini, N. Landen, and A. J. MacKinnon, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8−12 November 2010.

"Initial Cone-in-Shell Target Fast-Ignition Experiments on OMEGA," W. Theobald, A. A. Solodov, C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, C. Dorrer, J. A. Frenje, V. Yu. Glebov, H. Habara, K. A. Tanaka, J. P. Knauer, F. J. Marshall, K. L. Marshall, D. D. Meyerhofer, P. M. Nilson, P. K. Patel, H. Chen, T. C. Sangster, W. Seka, N. Sinenian, T. Ma, F. N. Beg, E. Giraldez, and R. B. Stephens, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010 (invited).

"Ion-Acoustic Wave Instability from Laser-Driven Return Currents," D. H. Froula, V. N. Goncharov, S. X. Hu, J. F. Myatt, J. S. Ross, L. Divol, and S. H. Glenzer, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Low-Adiabat, High-Compression Cryogenic Deuterium–Tritium Implosions on OMEGA," V. N. Goncharov, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010 (invited).

"Magnetized Spherical Implosions on the OMEGA Laser," P. Y. Chang, G. Fiksel, M. Hohenberger, J. P. Knauer, R. Nora, R. Betti, F. H. Séguin, C. K. Li, M.-J. E. Manuel, and R. D. Petrasso, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Measurements of Down-Scattered and TT-Neutron Spectra Using the Magnetic Recoil Spectrometer (MRS) on OMEGA," D. T. Casey, J. A. Frenje, F. H. Séguin, M. Manuel, N. Sinenian, R. D. Petrasso, V. Yu. Glebov, P. B. Radha, T. C. Sangster, D. D. Meyerhofer, D. McNabb, A. Miles, P. Navratil, and S. Quaglioni, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Measurements of Proton Generation with Intense, Kilojoule Laser Pulses on OMEGA EP," L. Gao, P. M. Nilson, W. Theobald, C. Stoeckl, C. Dorrer, T. C. Sangster, D. D. Meyerhofer, L. Willingale, and K. M. Krushelnick, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Monte Carlo Simulations of Neutron Scattering in Current-Mode Neutron Time-of-Flight Detectors," C. Stoeckl, D. H. Edgell, C. Forrest, V. Yu. Glebov, J. P. Knauer, and T. C. Sangster, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Neutron Time-of-Flight Diagnostic Performance During the National Ignition Facility's 2010 Campaign," V. Yu. Glebov, J. P. Knauer, T. C. Sangster, C. Stoeckl, E. J. Bond, J. A. Caggiano, T. J. Clancy, M. J. Eckart, J. D. Kilkenny, R. A. Lerche, J. McNaney, M. J. Moran, and D. H. Munro, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"NIF-Relevant, Polar-Drive Irradiation Tests on OMEGA," F. J. Marshall, V. Yu. Glebov, P. W. McKenty, P. B. Radha, and A. Shvydky, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"A 96/96-Beam Polar-Drive Configuration for Shock Ignition on the NIF," R. S. Craxton, L. Tucker, T. Mo, K. S. Anderson, R. Betti, L. J. Perkins, G. P. Schurtz, X. Ribeyre, and A. Casner, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Numerical Investigation of NIF Diagnostic Commissioning Experiments on OMEGA," A. Shvydky, P. W. McKenty, F. J. Marshall, R. S. Craxton, J. A. Marozas, R. Epstein, S. Skupsky, and R. L. McCrory, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Numerical Investigation of the Effect of Two-Plasmon-Decay Preheat in Planar Rayleigh–Taylor Experiments," J. A. Delettrez, S. X. Hu, and A. Shvydky, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Observation of Fast Protons in Recent Electron Fast-Ignition Experiments on OMEGA," N. Sinenian, J. A. Frenje, R. D. Petrasso, F. H. Séguin, C. K. Li, W. Theobald, and C. Stoeckl, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"One-Dimensional Hydrodynamic Theory of Shock Ignition," R. Nora, R. Betti, K. S. Anderson, P. Y. Chang, and M. Hohenberger, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"A Plastic-Ablator Cryogneic Shock-Ignition Design for the NIF," K. S. Anderson, R. Betti, R. S. Craxton, R. Nora, and L. J. Perkins, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Precision Measurements of the Equation of State (EOS) of GDP Ablator Materials at ~1 to 10 Mbar Using Laser-Driven Shock Waves," M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Preparing for Polar Drive at the National Ignition Facility," T. J. B. Collins, J. A. Marozas, S. Skupsky, P. W. McKenty, V. N. Goncharov, P. B. Radha, A. Shvysky, and M. M. Marinak, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"The Refractive Index and Transparency of Lithium Fluoride Compressed to 800 GPa," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, J. H. Eggert, R. Smith, D. G. Hicks, P. M. Celliers, and G. W. Collins, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Saturation of Two-Plasmon-Decay and Ion-Density Fluctuations," R. Yan, A. V. Maximov, and C. Ren, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Scaling Hot-Electron Generation to Long-Pulse, High-Intensity Lasers–Solid Interactions" by P. M. Nilson, A. A. Solodov, J. F. Myatt, W. Theobald, P. A. Jaanimagi,

L. Gao, C. Stoeckl, R. S. Craxton, J. A. Delettrez, J. D. Zuegel, B. E. Kruschwitz, C. Dorrer, J. H. Kelly, K. U. Akli, P. K. Patel, A. J. MacKinnon, R. Betti, T. C. Sangster, and D. D. Meyerhofer, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010 (invited).

"Shock-Ignition Studies on OMEGA," M. Hohenberger, W. Theobald, S. X. Hu, K. S. Anderson, D. D. Meyerhofer, C. Stoeckl, T. R. Boehly, D. E. Fratanduono, R. Betti, A. Casner, X. Ribeyre, and G. Schurtz, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Shock-Timing Measurements in ICF Targets Filled with Cryogenic Deuterium," T. R. Boehly, M. A. Barrios, D. E. Fratanduono, V. N. Goncharov, S. X. Hu, T. J. B. Collins, J. A. Marozas, T. C. Sangster, D. D. Meyerhofer, P. M. Celliers, H. F. Robey, D. G. Hicks, J. H. Eggert, G. W. Collins, and R. Smith, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Smoothing by Spectral Dispersion (SSD) for Multiple-Picket Pulses on OMEGA and the NIF," J. A. Marozas, T. J. B. Collins, and J. D. Zuegel, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"South-Pole Bang-Time X-Ray Diagnostic for the NIF," D. H. Edgell, J. Magoon, T. C. Sangster, M. J. Shoup III, F. J. Marshall, C. Stoeckl, A. G. MacPhee, S. Burns, J. Celeste, M. J. Eckart, J. D. Kilkenny, J. Kimbrough, J. Parker, and T. Thomas, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Spectroscopic Observations of Ablator Mass Mixed into the Hot Spot of NIF Implosions," S. P. Regan, R. Epstein, T. C. Sangster, D. D. Meyerhofer, B. A. Hammel, H. A. Scott, D. K. Bradley, D. Callahan, M. J. Edwards, M. J. Eckart, S. H. Glenzer, J. D. Kilkenny, O. L. Landen, N. B. Meezan, R. Prasad, V. A. Smalyuk, and L. J. Suter, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Status of the OMEGA EP Laser System," D. D. Meyerhofer, S.-W. Bahk, J. Bromage, C. Dorrer, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, S. F. B. Morse, J. Qiao, C. Stoeckl, and L. J. Waxer, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Study of Self-Generated Magnetic Fields in Implosion Experiments on OMEGA," I. V. Igumenshchev, V. N. Goncharov, P. M. Nilson, T. C. Sangster, C. K. Li, R. D. Petrasso, and M. G. Haines, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Two-Plasmon-Decay Instability and Stimulated Brillouin Scattering in Direct-Drive ICF Plasmas," A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, and R. Yan, presented at

the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Two-Plasmon-Decay Preheat Calculations for OMEGA and Ignition-Scale Direct-Drive Inertial Confinement Fusion," J. F. Myatt, J. A. Delettrez, A. V. Maximov, R. W. Short, D. H. Edgell, W. Seka, D. F. Dubois, D. A. Russell, and H. X. Vu, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Using Proton Radiography to Measure Rayleigh–Taylor-Induced Magnetic Fields," M. Manuel, C. K. Li, F. H. Séguin, J. A. Frenje, D. T. Casey, N. Sinenian, R. D. Petrasso, R. Betti, V. A. Smalyuk, J. Hager, and R. P. J. Town, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"Yield and Ion-Temperature Measurements in Exploding Pusher Experiments on OMEGA and the NIF," M. Rosenberg, presented at the 52nd Annual Meeting of the APS Division of Plasma Physics, Chicago, IL, 8–12 November 2010.

"A Model for Removal of Surface-Bound Tritium Using Humid Air," J. E. Fair and W. T. Shmayda, presented at the 9th International Conference on Tritium Science and Technology, Nara, Japan, 24–29 October 2010.

"Tritium Inertial Fusion: Extrapolation to Ignition Machines," W. T. Shmayda, D. R. Harding, S. J. Brereton, and F. Javier, presented at the 9th International Conference on Tritium Science and Technology, Nara, Japan, 24–29 October 2010.

"Tritium Outgassing from Contaminated Metal Surfaces," W. T. Shmayda and J. E. Fair, presented at the 9th International Conference on Tritium Science and Technology, Nara, Japan, 24–29 October 2010.

"Development and Operation of Large-Aperture Tiled-Grating Compressors for High-Energy, Petawatt-Class Laser Systems," J. Qiao, A. Kalb, T. Nguyen, D. Canning, and J. Price, presented at Frontiers in Optics, Rochester, NY, 24–28 October 2010.

"Grating Development for High-Peak-Power CPA Laser Systems," T. J. Kessler, H. Huang, J. B. Oliver, A. L. Rigatti, S. D. Jacobs, A. W. Schmid, and A. Kozlov, presented at Frontiers in Optics, Rochester, NY, 24–28 October 2010.

"Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," D. D. Meyerhofer, v. N. Goncharov, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettez, D. H. Edgell, R. Epstein, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, P. M. Nilson, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, J. A. Frenje, D. T. Casey, C. K. Li, R. D. Petrasso, F. H. Séguin, S. P.

Padalino, and K. A. Fletcher, presented at Frontiers in Optics, Rochester, NY, 24–28 October 2010.

"Non-Adiabatically Tapered Multimode Interference Coupler for High-Power Single-Mode Semiconductor Lasers," J. P. Leidner and J. R. Marciante, presented at Frontiers in Optics, Rochester, NY, 24–28 October 2010.

"Selective Near-UV Laser Ablation of Subgingival Dental Calculus at a 20° Irradiation Angle," J. E. Schoenly, W. Seka, and P. Rechmann, presented at Frontiers in Optics, Rochester, NY, 24–28 October 2010.

"The Stability of the Active Mode-Locked Erbium-Doped Fiber Laser and Its Application in a Novel Electro-Optic Sampling System," L. Ji, W. R. Donaldson, and T. Y. Hsiang, presented at Frontiers in Optics, Rochester, NY, 24–28 October 2010.

"Fast-Ignition Research at LLE," W. Theobald, A. A. Solodov, C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, H. Habara, K. A. Tanaka, F. J. Marshall, K. L. Marshall, D. D. Meyerhofer, P. M. Nilson, P. K. Patel, H. Chen, T. C. Sangster, W. Seka, N. Sinenian, F. Beg, and R. B. Stephens, presented at the Japan–U.S. Ignitor and High Energy Density Physics Workshop, Osaka, Japan, 23–24 October 2010.

"Modeling the OMEGA Laser System at the University of Rochester Using Miró," J. H. Kelly and T. Z. Kosc, presented at the 5th Miró User Meeting, Haut Carré, Talence, France, 18–19 October 2010.

"Fast-Ignition Integrated Experiments on OMEGA," W. Theobald, A. A. Solodov, C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, H. Habara, F. J. Marshall, K. A. Tanaka, K. L. Marshall, D. D. Meyerhofer, P. M. Nilson, P. K. Patel, H. Chen, T. C. Sangster, W. Seka, N. Sinenian, F. Beg, and R. B. Stephens, presented at the 11th International Workshop on Fast Ignition of Fusion Targets, Shanghai, China, 17–21 October 2010.

"High-Performance Inertial Confinement Fusion Target Implosions on OMEGA," D. D. Meyerhofer, R. L. McCrory, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, C. K. Li, J. A. Marozas, F. J. Marshall, P. W. McKenty, P. M. Nilson, S. P. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, and B. Yaakobi, presented at the 23rd IAEA Fusion Energy Conference, Daejon, Korea, 11–16 October 2010.

"Hydrodynamic Mix Experiments for NIF Implosions Based on Spectroscopic Observations of K-Shell Emission," S. P. Regan, R. Epstein, T. C. Sangster, D. D. Meyerhofer, B. A. Hammel, H. A. Scott, D. K. Bradley, D. Callahan, M. J. Edwards,

M. J. Eckart, S. H. Glenzer, J. D. Kilkenny, O. L. Landen, N. B. Meezan, R. Prasad, V. A. Smalyuk, L. J. Suter, and R. C. Mancini, presented at the 14th International Workshop on Radiative Properties of Hot Dense Matter, Marbella, Spain, 4–8 October 2010.

"Submicrometer-Resolution Mapping of Ultraweak 355-nm Absorption in $HfO_2$ Monolayers Using Photothermal Heterodyne Imaging," S. Papernov, A. Tait, W. Bittle, A. W. Schmid, J. B. Oliver, and P. Kupinski, presented at the XLII Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 27–29 September 2010.

"Contrast Measurements of Kilojoule Laser Pulses at the OMEGA EP Laser Facility," C. Dorrer, D. Irwin, A. Consentino, and J. Qiao, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"Current Performance of the OMEGA EP High-Energy Short-Pulse Laser System," B. E. Kruschwitz, M. J. Guardalben, J. H. Kelly, J. Qiao, I. A. Begishev, J. Bromage, S.-W, Bahk, C. Dorrer, L. Folnsbee, S. D. Jacobs, R. Jungquist, T. J. Kessler, R. W. Kidder, S. J. Loucks, J. R. Marciante, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, J. B. Oliver, G. Pien, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup III, C. Stoeckl, K. A. Thorp, and J. D. Zuegel, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"Development of High-Fluence Beam Shapers," C. Dorrer, P. Leung, M. Vargas, J. Boule, K. Wegman, Z. Zhao, and K. L. Marshall, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"High-Resolution, Adaptive Beam Shaping (HRABS) in a Multi-Terawatt Laser," S.-W. Bahk, E. Fess, I. A. Begishev, and J. D. Zuegel, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"Improved On-Shot Focal-Spot Measurement Using Phase-Retrieval–Assisted Wavefront Measurements," B. E. Kruschwitz, S.-W. Bahk, J. Bromage, D. Irwin, and M. D. Moore, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"A 160-nm-Bandwidth Front End for Ultra-Intense OPCPA," J. Bromage, C. Dorrer, and J. D. Zuegel, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"Real-Time Detection of Laser-Induced Damage on a 1.5-m Tiled-Grating Compressor During a 15-ps, 2.2-kJ Energy Ramp on OMEGA EP," J. Qiao, A. W. Schmid, L. J. Waxer, T. Nguyen, J. Bunkenburg, C. Kingsley, A. Kozlov, and D. Weiner, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"A Simple Self-Referenced Piston Measurement for Characterizing a Segmented Wavefront from Tiled Gratings," S.-W. Bahk, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"Temporal Characterization Diagnostics for High-Intensity Laser Systems," C. Dorrer, presented at ICUIL, Watkins Glen, NY, 26 September–1 October 2010.

"Photoswitchable Gas Permeation Membranes Based on Azobenzene-Doped Liquid Crystals. II. Permeation-Switching Characterization Under Variable Volume and Variable Pressure Conditions," E. Głowacki, K. Hunt, D. Abud, and K. L. Marshall, presented at SPIE Optics and Photonics 2010, San Diego, CA, 1–5 August 2010.

"Inertial Confinement Fusion Using the OMEGA Laser," P. B. Radha, R. Betti, T. R. Boehly, J. A. Delettrez, V. N. Goncharov, I. V. Igumenshchev, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, A. A. Solodov, C. Stoeckl, W. Theobald, J. A. Frenje, D. T. Casey, C. K. Li, and R. D. Petrasso, presented at the 37th International Conference on Plasma Science, Norfolk, VA, 20–24 June 2010.

"Anistropic Distribution of Hard X Rays from the Two-Plasmon-Decay Hot-Electron Distribution," D. H. Edgell, J. F. Myatt, W. Seka, J. A. Delettrez, A. V. Maximov, R. W. Short, and R. E. Bahr, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Anistropy of Collectively Driven Two-Plasmon Decay in Direct-Drive Spherical Irradiation Geometry," R. W. Short, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Calculations of Preheat Caused by the Two-Plasmon-Decay Instability in Direct-Drive ICF Plasmas," J. F. Myatt, J. A. Delettrez, W. Seka, D. H. Edgell, A. V. Maximov, R. W. Short, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Electrothermally Generated Filaments in Laser–Solid Interactions," M. G. Haines, J. A. Delettrez, J. F. Myatt, A. A. Solodov, T. J. B. Collins, and J. A. Marozas, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Hot-Electron Generation by the Two-Plasmon-Decay Instability in Inhomogeneous Plasmas," H. X. Vu, D. F. DuBois, D. A. Russell, J. F. Myatt, and W. Seka, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Modeling of Two-Plasmon-Decay Instability in the Plasmas of Direct-Drive Inertial Confinement Fusion," A. V. Maximov, J. F. Myatt, R. W. Short, R. Yan, and W. Seka, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Preparing for Polar Drive at the National Ignition Facility," T. J. B. Collins, J. A. Marozas, S. Skupsky, P. W. McKenty, V. N. Goncharov, P. B. Radha, R. S. Craxton,

F. J. Marshall, R. Epstein, D. Jacobs-Perkins, and A. Shvydky, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"SBS, SRS, and TPD in Planar Target Experiments Relevant to Direct-Drive ICF," W. Seka, D. H. Edgell, J. F. Myatt, R. S. Craxton, A. V. Maximov, and R. W. Short, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Two-Dimensional Radiation-Hydrodynamic Simulations of Cryogenic-DT Implosions at the Omega Laser Facility," S. X. Hu, V. N. Goncharov, P. B. Radha, J. A. Marozas, S. Skupsky, T. R. Boehly, T. C. Sangster, D. D. Meyerhofer, and R. L. McCrory, presented at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010.

"Corrosion Resistant Zirconia Coated Carbonyl Iron Particle-Based Magnetorheological Fluid," S. N. Shafrir, H. J. Romanofsky, M. D. Skarlinski, M. Wang, C. Miao, S. Salzman, T. Chartier, J. Mici, J. C. Lambropoulos, R. Shen, H. Yanh, and S. D. Jacobs, presented at Optical Fabrication and Testing, Jackson Hole, WY, 13–17 June 2010.

"Modifying the Rheological Properties of Zirconia Coated Carbonyl Iron Suspensions Through Acid-Base Titration and the Addition of Di-Ammonium Citrate," M. D. Skarlinski and S. D. Jacobs, Optical Fabrication and Testing, Jackson Hole, WY, 13–17 June 2010.

"High-Intensity Laser-Matter Interaction Experiments on the Kilojoule-Class OMEGA EP Laser," J. F. Myatt, R. Betti, J. A. Delettrez, L. Gao, P. A. Jaanimagi, A. V. Maximov, D. D. Meyerhofer, T. C. Sangster, R. W. Short, C. Stoeckl, M. Storm, W. Theobald, B. Yaakobi, J. D. Zuegel, S. C. Wilks, A. J. MacKinnon, P. K. Patel, H. Chen, and K. Akli, presented at the 2010 Canadian Association of Physicists Congress, Toronto, Canada, 7–11 June 2010.

"CEA Deformable-Mirror Coating Test Results," A. L. Rigatti, J. B. Oliver, P. Kupinski, H. Floch, E. Lavastre, G. Ravel, and F. Geffraye, Optical Interference Coatings, Tucson, AZ, 6–11 June 2010.

"Improving the Abrasion Resistance of Organosilane-Modified Sol-Gel Coatings for High-Peak-Power Laser Applications," K. L. Marshall, E. Glowacki, C. Sileo, L. Chockalingam, J. Lee, V. Guiliano, and A. Rigatti, presented at Optical Interference Coatings, Tucson, AZ, 6–11 June 2010.

"Large-Aperture Plasma-Assisted Deposition of ICF Laser Coatings," J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, J. Spaulding, D. Sadowski, Z. Chrzan, R. D. Hand, D. R. Gibson, I. Brinkley, and F. Placido, Optical Interference Coatings, Tucson, AZ, 6–11 June 2010.

"Modification of Stresses in Evaporated Hafnia Coatings for Use in Vacuum," J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, and R. D. Hand, Optical Interference Coatings, Tucson, AZ, 6–11 June 2010.

"Stress Compensation in Hafnia/Silica Optical Coatings by Inclusion of Alumina Layers," J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, and R. D. Hand, Optical Interference Coatings, Tucson, AZ, 6–11 June 2010.

"A Compact All-Fiber Optical Faraday Mirror," L. Sun, S. Jiang, and J. R. Marciante, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Contrast Measurements of Kilojoule Laser Pulses at the Omega Laser Facility," C. Dorrer, D. Irwin, A. Consentino, and J. Qiao, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Direct Measurement of Bend-Induced Mode Deformation Using a Helical-Core Fiber," R. C. G. Smith, A. M. Sarangan, and J. R. Marciante, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Eliminating Spatiotemporal Distortions from Angular Dispersion in Noncollinear Optical Parametric Amplifiers," J. Bromage, C. Dorrer, and J. D. Zuegel, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Improved On-Shot Focal-Spot Diagnosis on the OMEGA EP Short-Pulse Laser System," B. E. Kruschwitz, S.-W. Bahk, J. Bromage, D. Irwin, M. Moore, L. J. Waxer, J. D. Zuegel, and J. H. Kelly, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"*In-Situ* Detection and Analysis of Laser-Induced Damage on a 1.5-m Multilayer-Dielectric Grating Compressor for High-Energy, Petawatt-Class Laser Systems," J. Qiao, L. J. Waxer, T. Nguyen, J. Bunkenburg, C. Kingsley, J. H. Kelly, A. W. Schmid, and D. Weiner, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Optically Patterned Liquid Crystal Devices for High-Resolution Beam Shaping," M. Vargas, Z. Zhao, K. L. Marshall, and C. Dorrer, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Generation of CPA Seed Pulse by Direct Phase Modulation," R. Xin and J. D. Zuegel, presented at CLEO 2010, San Jose, CA, 16–21 May 2010.

"Laser Fusion for Laser Jocks: Basic Principles of a Laser Application Meeting a Grand Challenge," J. D. Zuegel, presented at CLEO Applications, San Jose, CA, 16–21 May 2010.

"Characterization of Composition and Energy Spectra of Laser-Produced Ions with Thomson Parabola," G. Fiksel, C. Freeman, J. A. Frenje, J. C. Mileham, P. M. Nilson, N.

Sinenian, C. Stoeckl, and W. Theobald, presented at the 18th Topical Conference on High-Temperature Plasma Diagnostics, Wildwood, NJ, 16–20 May 2010.

"Charge-Injection-Device Performance in the High-Energy-Neutron Environment of Laser-Fusion Experiments," F. J. Marshall, T. DeHaas, and V. Yu. Glebov, presented at the 18th Topical Conference on High-Temperature Plasma Diagnostics, Wildwood, NJ, 16–20 May 2010.

"A Gated Liquid-Scintillator–Based Neutron Detector for Fast-Ignitor Experiments and Down-Scattered Neutron Measurements," C. Stoeckl, M. Cruz, V. Yu. Glebov, J. P. Knauer, R. Lauck, K. L. Marshall, C. Mileham, T. C. Sangster, and W. Theobald, presented at the 18th Topical Conference on High-Temperature Plasma Diagnostics, Wildwood, NJ, 16–20 May 2010.

"The National Ignition Facility Neutron Time-of-Flight System and Its Initial Performance," V. Yu. Glebov, T. C. Sangster, C. Stoeckl, J. P. Knauer, W. Theobald, K. L. Marshall, M. J. Shoup III, T. Buczek, M. Cruz, T. Duffy, M. Romanofsky, M. Fox, A. Pruyne, M. J. Moran, R. A. Lerche, J. McNaney, J. D. Kilkenny, M. Eckart, D. Schneider, D. Munro, W. Stoeffl, R. A. Zacharias, J. J. Haslam, T. Clancy, M. Yeoman, D. Warwas, C. J. Horsfield, J.-L. Bourgade, O. Landoas, L. Disdier, G. A. Chandler, and R. J. Leeper, presented at the 18th Topical Conference on High-Temperature Plasma Diagnostics, Wildwood, NJ, 16–20 May 2010 (invited).

"Time-Resolved Scattered-Light Spectroscopy in Direct-Drive-Implosion Experiments on OMEGA," D. H. Edgell, W. Seka, V. N. Goncharov, I. V. Igumenshchev, R. S. Craxton, J. A. Delettrez, J. F. Myatt, A. V. Maximov, T. C. Sangster, and R. W. Short, R. E. Bahr, presented at the 18th Topical Conference on High-Temperature Plasma Diagnostics, Wildwood, NJ, 16–20 May 2010.

"Development of a Spherical Crystal X-Ray Imaging Diagnostic for OMEGA and OMEGA EP," G. Fiksel, R. Jungquist, P. M. Nilson, W. Theobald, and C. Stoeckl, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Diagnostic Qualification and Infrastructure Update," G. Pien, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Facility Overview and Progress on 2009 OLUG Recommendations," S. F. B. Morse, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Fourth-Harmonic Probe Diagnostic for OMEGA EP," W. Theobald, W. Seka, M. Bedzyk, R. Boni, R. Brown, R. S. Craxton, S. Ivancic, P. M. Nilson, J. Puth, A. V. Okishev, R. G. Roides, T. C. Sangster, C. Stoeckl, T. Duffy, D. Weiner, and J. D. Zuegel, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"High-Precision Measurements of the Equation of State of Hydrocarbons at 1- to 10-Mbar Using Laser-Driven Shock Waves," M. A. Barrios, D. G. Hicks, T. R. Boehly, D. E. Fratanduono, J. H. Eggert, P. M. Celliers, G. W. Collins, and D. D. Meyerhofer, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Intense-Energy Coupling with Multikilojoule, 10-ps Pulses on OMEGA EP," P. M. Nilson, R. Betti, J. A. Delettrez, L. Gao, P. A. Jaanimagi, J. F. Myatt, T. C. Sangster, A. A. Solodov, C. Stoeckl, W. Theobald, B. Yaakobi, J. D. Zuegel, A. J. Mackinnon, P. K. Patel, K. Akli, L. Willingale, and K. M. Krushelnick, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Measures of Strain-Induced Refractive-Index Changes in Ramp-Compressed Lithium Fluoride," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, J. H. Eggert, R. Smith, D. G. Hicks, P. M. Celliers, and G. W. Collins, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"OMEGA EP Temporal Contrast Measurements," C. Dorrer, D. Irwin, A. Consentino, and J. Qiao, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Omega Facility Status and Performance Update," K. A. Thorp, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"On-Shot Focal-Spot Characterization on OMEGA EP," B. E. Kruschwitz, S.-W. Bahk, J. Bromage, D. Irwin, and M. Moore, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Rayleigh–Taylor Measurements in Planar CH and $SiO_2$ Foils on OMEGA," J. D. Hager, V. A. Smalyuk, S. X. Hu, D. D. Meyerhofer, and T. C. Sangster, presented at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010.

"Optimizing Pair Production on Kilojoule-Class Lasers," J. F. Myatt, J. A. Delettrez, A. V. Maximov, D. D. Meyerhofer, R. W. Short, C. Stoeckl, M. Storm, S. C. Wilks, and H. Chen, presented at the Workshop on Antimatter Using Intense Lasers, Berkeley, CA, 27–28 April 2010.

"Humidity and Temperature-Stimulated Outgassing from Contaminated Metal Surfaces," W. T. Shmayda and J. E. Fair, presented at Hydrogen and Helium Isotopes in Materials, Oak Ridge, TN, 20–21 April 2010.

"Mass Production of Targets for Inertial Fusion Energy," D. R. Harding, T. B. Jones, and D. D. Meyerhofer, presented at the 5th IAEA Technical Meeting, Vienna, Austria, 24–26 March 2010.

"All-Fiber Optical Magnetic Field Sensor Based on Faraday Rotation," L. Sun, S. Jiang, and J. R. Marciante, presented at OFC 2010, San Diego, CA, 21–25 March 2010.

"Single-Frequency Hybrid Brillouin/Ytterbium Fiber Laser with 1-W Output Power," W. Guan and J. R. Marciante, presented at OFC 2010, San Diego, CA, 21–25 March 2010.

"Decontaminating Tritiated Surfaces with Humid Purge Streams," W. T. Shmayda, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Development of NIF-Scale Polar-Drive Cryogenic Targets," M. D. Wittman and D. R. Harding, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Electric-Field Mediated Double-Emulsion Droplet Centering Using Density Gradient Suspension," Z. Bei, T. B. Jones, D. R. Harding, and A. Tucker-Schwartz, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R. L. McCrory, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Mass Fabrication of Cryogenic Targets for Inrteial Fusion Energy," D. R. Harding, T. B. Jones, R. Q. Gram, Z. Bei, W. Wang, M. Moynihan, and S.-J. Scott, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Mechanical Forces that Develop in Foam Material During Evaporative Drying," S.-J. Scott, D. R. Harding, and J. Fooks, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Microfluidic T-Junctions to Mass Produce NIF and IFE Size Foam Targets," M. Moynihan, D. R. Harding, and S. H. Chen, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"On-Chip Double-Emulsion Droplet Assembly Using EWOD and DEP," W. Wang, T. B. Jones, and D. R. Harding, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Results of Recent NIF Polar-Drive Diagnostic Activation Experiments," P. W. McKenty, R. S. Craxton, J. A. Marozas, A. M. Cok, R. Epstein, M. J. Bonino, D. R. Harding, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, J. Fooks, M. Hoppe, J. M. Edwards, A. J. MacKinnon, D. H. Munro, and R. J. Wallace, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Stalk-Mounted Cryogenic Targets: Rationale and Results," M. J. Bonino, D. R. Harding, S. G. Noyes, J. Fooks, D. Turner, M. D. Wittman, and L. D. Lund, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Three-Dimensional Characterization of Cryogenic Targets Using X-Ray Phase-Contrast Imaging and Shadowgraphy at LLE," D. H. Edgell, M. D. Wittman, R. S. Craxton, D. R. Harding, B. Smith, and T. Lu, presented at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010.

"Characterization of Highly Stable Mid-IR, GaSb-Based Laser Diodes," A. V. Okishev, D. Wang, D. Westerfeld, L. Shterengas, and G. Belenky, presented at Laser Applications to Chemical, Security and Environmental Analysis, San Diego, CA, 31 January–4 February 2010.

"Directly Chirped Laser Source for Chirped-Pulse Amplification," R. Xin and J. D. Zuegel, presented at Advanced Solid-State Photonics, San Diego, CA, 31 January–3 February 2010.

"High-Resolution Spatio-Spectral Characterization of Noncollinear Optical Parametric Amplifiers," J. Bromage, C. Dorrer, and J. D. Zuegel, presented at Advanced Solid-State Photonics, San Diego, CA, 31 January–3 February 2010.

"Performance Trade-Offs for High-Repetition-Rate Noncollinear Optical Parametric Amplifiers," J. Bromage, C. Dorrer, and J. D. Zuegel, presented at Advanced Solid-State Photonics, San Diego, CA, 31 January–3 February 2010.

"Selective Near-UV Ablation of Dental Calculus: Measurement of Removal Rates," J. E. Schoenly, W. Seka, and P. Rechmann, presented at BiOS 2010, San Francisco, CA, 23–28 January 2010.

"Compact All-Fiber Optical Faraday Isolator," L. Sun, S. Jiang, and J. R. Marciante, presented at SPIE Photonics West—LASE, San Francisco, CA, 23–28 January 2010.

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"Analysis of the Effect of a High-*Z*-Doped CH Ablator and Glass Ablators on Preheat and Hard X-Ray Radiation from Two-Plasmon Decay Electrons," J. A. Delettrez, J. P. Knauer, V. N. Goncharov, P. B. Radha, C. Stoeckl, A. V. Maximov, J. A. Frenje, and D. Shvarts, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Anisotropy and Angular Dependence of Two-Plasmon Decay Driven by Multiple Overlapping Laser Beams in Direct-Drive Geometry," R. W. Short, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Compressing Magnetic Fields with High-Energy Lasers," J. P. Knauer, O. V. Gotchev, P. Y. Chang, D. D. Meyerhofer, A. Polomarov, R. Betti, J. A. Frenje, C. K. Li, M. J.-E.

Manuel, R. D. Petrasso, J. R. Rygg, and F. H. Séguin, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009 (invited).

"Cross-Beam Energy Transport in Direct-Drive-Implosion Experiments," D. H. Edgell, W. Seka, J. A. Delettrez, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, J. F. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, and R. E. Bahr, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Design of High-Neutron-Yield, Polar-Drive Targets for Diagnostic Activation Experiments on the NIF," P. W. McKenty, R. S. Craxton, J. A. Marozas, A. M. Cok, M. J. Bonino, D. R. Harding, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, J. Fooks, M. L. Hoppe, M. J. Edwards, A. J. MacKinnon, D. H. Munro, and R. J. Wallace, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Development of Scintillator Detectors for Fast-Ignition Experiments and Down-Scattered Neutron Measurements," V. Yu. Glebov, C. Stoeckl, W. Theobald, T. C. Sangster, K. L. Marshall, M. Cruz, M. J. Shoup III, T. Buczek, A. Pruyne, M. Fox, T. Duffy, M. J. Moran, and R. Lauck, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Effects of External and Self-Generated Magnetic Fields on Laser-Driven Implosions," O. Polomarov, P. Y. Chang, O. V. Gotchev, and R. Betti, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"An Empirical Model for the Interaction of Ultra-Intense Laser Pulses with Fully Ionized Plasmas Including Electrostatic Effects," J.-H. Yang and R. S. Craxton, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Extended Zakharov Modeling of Preheat Caused by the Two-Plasmon Decay Instability in Direct-Drive ICF Plasmas," J. F. Myatt, J. A. Delettrez, A. V. Maximov, R. W. Short, D. H. Edgell, W. Seka, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Fast-Electron Generation with Multi-kJ Pulses on OMEGA EP," P. M. Nilson, W. Theobald, J. F. Myatt, L. Gao, C. Stoeckl, P. A. Jaanimagi, J. A. Delettrez, B. Yaakobi, J. D. Zuegel, R. Betti, D. D. Meyerhofer, T. C. Sangster, A. J. MacKinnon, P. K. Patel, and K. Akli, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Growth and Saturation of Two-Plasmon-Decay Instability Driven by Crossing Laser Beams in OMEGA Plasmas," A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, J. A.

Delettrez, and C. Stoeckl, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"High-Precision Measurements of the Equation of State (EOS) of Hydrocarbons at 1 to 10 Mbar Using Laser-Driven Shock Waves," M. A. Barrios, D. G. Hicks, T. R. Boehly, D. E. Fratanduono, J. H. Eggert, P. M. Celliers, G. W. Collins, and D. D. Meyerhofer, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009 (invited).

"Hydrodynamic Simulations and Optical Diagnosis of a Long-Scale-Length Channeling Experiment on OMEGA EP," R. S. Craxton, W. Theobald, W. Seka, S. Ivancic, G. Li, C. Ren, and D. Weiner, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Inferring Electron Temperature of Shocked Liquid Deuterium Using Inelastic X-Ray Scattering," S. P. Regan, P. B. Radha, T. R. Boehly, V. N. Goncharov, R. L. McCrory, D. D. Meyerhofer, T. C. Sangster, V. A. Smalyuk, K. Falk, G. Gregori, T. Doeppner, S. H. Glenzer, and O. L. Landen, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Initial Results from the OMEGA EP Laser System," D. D. Meyerhofer, R. Betti, T. R. Boehly, J. H. Kelly, S. J. Loucks, R. L. McCrory, S. F. B. Morse, P. M. Nilson, S. P. Regan, T. C. Sangster, V. A. Smalyuk, C. Stoeckl, W. Theobald, and L. J. Waxer, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Integrated Fast-Ignition Experiments on OMEGA," W. Theobald, C. Stoeckl, V. Yu. Glebov, F. J. Marshall, K. L. Marshall, K. S. Anderson, R. Betti, R. S. Craxton, D. D. Meyerhofer, P. M. Nilson, T. C. Sangster, A. A. Solodov, J. A. Frenje, N. Sinenian, R. D. Petrasso, P. A. Norreys, D. Hey, M. H. Key, P. K. Patel, R. Lauck, and R. B. Stephens, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Intensity Dependence of Target Performance in Low-Adiabat, Warm Implosions on OMEGA," P. B. Radha, C. Stoeckl, V. N. Goncharov, J. A. Delettrez, T. C. Sangster, R. Betti, R. L. McCrory, D. D. Meyerhofer, S. P. Regan, W. Seka, D. Shvarts, S. Skupsky, and V. A. Smalyuk, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Measurements of Strain-Induced Refractive Index Changes in LiF Using Direct-Drive Ramp Compression," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, R. Smith, J. H. Eggert, D. G. Hicks, P. M. Celliers, G. W. Collins, and R. Rygg, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"A Measurable Three-Dimensional Ignition Criterion for Inertial Confinement Fusion," P. Y. Chang, R. Betti, K. S. Anderson, R. Nora, B. Spears, M. Fatenejad, and D. Shvarts, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Mitigation of Fast-Electron Production by the Two-Plasmon-Decay Instability in Directly Driven Targets," W. Seka, D. H. Edgell, J. F. Myatt, A. V. Maximov, R. W. Short, R. S. Craxton, D. Russell, D. F. DuBois, and H. X. Vu, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Modeling Crossed-Beam Energy Transfer in Implosion Experiments on OMEGA," I. V. Igumenshchev, D. H. Edgell, V. N. Goncharov, W. Seka, J. F. Myatt, A. V. Maximov, A. Shvydky, and J. A. Delettrez, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Multiple-Picket Cryogenic Target Designs and Performance for OMEGA and the National Ignition Facility," V. N. Goncharov, T. C. Sangster, T. R. Boehly, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, V. A. Smalyuk, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Numerical Investigation of the Effects of Cross-Beam Energy Transfer on the Drive Uniformity of OMEGA Implosions," A. Shvydky, P. W. McKenty, J. A. Delettrez, I. V. Igumenshchev, D. H. Edgell, S. Skupsky, and R. L. McCrory, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Polar-Driven Implosions on OMEGA: Observations and Simulations of Low-Mode Perturbations in the Main Fuel Layer and Hot Spot," F. J. Marshall, R. S. Craxton, R. Epstein, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. W. McKenty, P. B. Radha, A. Shvydky, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Rayleigh–Taylor Measurements in Planar CH and $SiO_2$ Foils on OMEGA," J. D. Hager, J. P. Knauer, S. X. Hu, D. D. Meyerhofer, T. C. Sangster, and V. A. Smalyuk, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Shock-Ignition Experiments on OMEGA at NIF-Relevant Intensities," C. Stoeckl, W. Theobald, R. Betti, R. S. Craxton, J. A. Delettrez, O. V. Gotchev, V. Yu. Glebov, F. J. Marshall, D. D. Meyerhofer, W. Seka, T. C. Sangster, C. D. Zhou, J. A. Frenje, and R. D. Petrasso, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Shock-Timing Measurements in Directly Driven Spherical Inertial Confinement Fusion Targets," T. R. Boehly, V. N. Goncharov, W. Seka, D. E. Fratanduono, M. A. Barrios, S. X. Hu, J. A. Marozas, T. C. Sangster, D. D. Meyerhofer, D. G. Hicks, and P. M. Celliers, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Shock-Tuned Cryogenic DT-Implosion Performance on OMEGA," T. C. Sangster, V. N. Goncharov, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, J. A. Frenje, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, S. J. Loucks, C. K. Li, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. M. Nilson, S. P. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, F. H. Séguin, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, and B. Yaakobi, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009 (invited).

"Simulation and Analysis of Backlit Images of Cryogenic Implosions on OMEGA," R. Epstein, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, and V. A. Smalyuk, W. Theobald, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Simulations of Electron-Beam Transport in Solid-Density Targets and the Role of Magnetic Collimation," A. A. Solodov, M. Storm, J. F. Myatt, R. Betti, D. D. Meyerhofer, P. M. Nilson, W. Theobald, and C. Stoeckl, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Simulations of the Direct-Drive NIF Shock-Timing Diagnostic Commissioning Experiments," T. J. B. Collins, P. W. McKenty, K. S. Anderson, M. M. Marinak, M. A. Barrios, D. G. Braun, T. R. Boehly, and P. M. Celliers, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Single- and Multidimensional Robustness Studies of the NIF Ignition Point Design," K. S. Anderson, R. Betti, P. Y. Chang, R. Nora, M. Fatenejad, and D. Shvarts, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Theoretical Investigation of Strong Coupling and Degeneracy Effects in ICF Implosions," S. X. Hu, B. Militzer, V. N. Goncharov, T. R. Boehly, P. B. Radha, and S. Skupsky, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Thermonuclear Ignition in Inertial Confinement Fusion," R. Betti, P. Y. Chang, B. K. Spears, K. S. Anderson, J. Edwards, M. Fatenejad, J. D. Lindl, R. L. McCrory, R. Nora, and D. Shvarts, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009 (invited).

"2-D Simulations of a 1-MJ CH-Foam Ignition Target on the NIF with 0.5 THz of 1-D Multi-FM SSD Bandwidth Using an Analytic Model," J. A. Marozas, T. J. B. Collins, and J. D. Zuegel, presented at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009.

"Signal Reconstruction Techniques for Optical Pulse Characterization," C. Dorrer, presented at Signal Recovery and Synthesis, San Jose, CA, 13-14 October 2009.

"All-Fiber Isolator Based on Faraday Rotation," L. Sun, S. Jiang, J. D. Zuegel, and J. R. Marciante, presented at Frontiers in Optics 2009, San Jose, CA, 11–15 October 2009.

"Power Scaling of Single-Frequency Hybrid Brillouin/Ytterbium Fiber Lasers," W Guan and J. R. Marciante, presented at Frontiers in Optics 2009, San Jose, CA, 11–15 October 2009.

"Spatial-Filtering Properties of Large-Mode-Area Fibers with Confined Gain Dopants," J. R. Marciante, presented at Frontiers in Optics 2009, San Jose, CA, 11–15 October 2009.

"Comparison of 10-ps In-Air and In-Vacuum Damage Thresholds," A. L. Rigatti, J. B. Oliver, A. Kozlov, and A. W. Schmid, presented at Laser Damage 2009, Boulder, CO, 21–23 September 2009.

"Demonstration of the Shock-Timing Technique for Ignition Targets at the National Ignition Facility," T. R. Boehly, V. N. Goncharov, D. E. Fratanduono, M. A. Barrios, S. X. Hu, T. C. Sangster, D. D. Meyerhofer, D. Munro, P. M. Celliers, D. G. Hicks, H. F. Robey, G. W. Collins, N. Landen, R. E. Olson, and A. Nikroo, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"Design of High-Neutron-Yield Polar-Drive Targets for Diagnostic Activation Experiments on the NIF," P. W. McKenty, R. S. Craxton, F. J. Marshall, T. C. Sangster, J. A. Marozas, A. M. Cok, M. J. Bonino, D. R. Harding, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, J. Fooks, M. Hoppe, J. M. Edwards, A. J. MacKinnon, D. H. Munro, and R. J. Wallace, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"Inferring the Electron Temperature and Density of Shocked Liquid Deuterium Using Inelastic X-Ray Scattering," S. P. Regan, P. B. Radha, T. R. Boehly, T. Doeppner, K. Falk, S. H. Glenzer, V. N. Goncharov, G. Gregori, O. L. Landen, R. L. McCrory, D. D. Meyerhofer, P. Neumayer, T. C. Sangster, and V. A. Smalyuk, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"A Measurable Lawson Criterion for Inertial Confinement Fusion," R. Betti, K. S. Anderson, P. Y. Chang, R. Nora, and C. D. Zhou, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"Multiple-Picket, Cryogenic Target Designs and Performance for OMEGA and the NIF," V. N. Goncharov, T. C. Sangster, T. R. Boehly, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, V. A. Smalyuk, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"The Nuclear Diagnostics Suite for the NIF," T. C. Sangster, L. Ahle, D. Bleuel, D. T. Casey, M. J. Eckart, M. J. Edwards, R. J. Fortner, J. A. Frenje, V. Yu. Glebov, G. P. Grim, H. W. Herrmann, C. J. Horsfield, J. D. Kilkenny, O. Landoas, R. A. Lerche, K. J. Moody, M. J. Moran, R. D. Petrasso, M. Schmitt, D. Schneider, D. A. Shaughnessy, C. Stoeckl, W. Stoeffl, and M. D. Wilke, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"Performance of and Initial Experimental Results from the Omega EP Laser System," D. D. Meyerhofer, J. Bromage, C. Dorrer, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, S. F. B. Morse, J. F. Myatt, P. M. Nilson, J. Qiao, T. C. Sangster, C. Stoeckl, L. J. Waxer, and J. D. Zuegel, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"Progress in Cryogenic Target Implosions on OMEGA," R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, J. P. Knauer, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, and D. T. Casey, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"Simulations of Electron-Beam Transport in Solid-Density Targets and the Role of Magnetic Collimation," A. A. Solodov, M. Storm, J. F. Myatt, R. Betti, D. D. Meyerhofer, P. M. Nilson, W. Theobald, and C. Stoeckl, presented at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009.

"High-Damage-Threshold Beam Shapers for High-Energy Laser Systems," C. Dorrer, presented at the Ultrafast Optics and High Field Short Wavelength Meeting, Arcachon, France, 31 August–4 September 2009.

"Simple High-Sensitivity, Electro-Optic Sagnac Spectral Shearing Interferometry for Optical Pulse Characterization," C. Dorrer and J. Bromage, presented at the Ultrafast

Optics and High Field Short Wavelength Meeting, Arcachon, France, 31 August–4 September 2009.

"Single-Shot High-Dynamic-Range Cross-Correlator for High-Energy Laser Systems," C. Dorrer, J. Bromage, and J. D. Zuegel, presented at the Ultrafast Optics and High Field Short Wavelength Meeting, Arcachon, France, 31 August–4 September 2009.

"Photoswitchable Gas Permeation Membranes Based on Azobenzene-Doped Liquid Crystals," E. Glowacki, C. W. Ching, and K. L. Marshall, presented at Optics and Photonics, San Diego, CA, 2–6 August 2009 (invited).

"Contributions of Nanodiamond Abrasives and Deionized Water in Magnetorheological Finishing of Aluminum Oxynitride," C. Miao, J. C. Lambropoulos, H. Romanofsky, S. N. Shafrir, and S. D. Jacobs, presented at Optical Manufacturing and Testing VIII, San Diego, CA, 2–6 August 2009.

"Normal Force and Drag Force in Magnetorheological Finishing," C. Miao, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at Optical Manufacturing and Testing VIII, San Diego, CA, 2–6 August 2009.

"Zirconia Coated Carbonyl Iron Particle-Based Magnetorheological Fluid for Polishing," S. N. Shafrir, H. J. Romanofsky, M. Skarlinski, M. Wang, C. Miao, S. Salzman, T. Chartier, J. Mici, J. C. Lambropoulos, R. Shen, J. Yang, and S. D. Jacobs, presented at Optical Manufacturing and Testing VIII, San Diego, CA, 2–6 August 2009.

"Electro-Optic Sampling Using Two/Multiple Optical Pulses," L. Ji, W. R. Donaldson, and T. Y. Hsiang, presented at the 14th OptoElectronics and Communications Conference, Hong Kong, 13–17 July 2009.

"Advanced-Ignition-Concept Exploration on OMEGA," W. Theobald, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, O. V. Gotchev, J. H. Kelly, C. K. Li, A. J. Mackinnon, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. A. Norreys, P. M. Nilson, P. K. Patel, R. D. Petrasso, P. B. Radha, C. Ren, T. C. Sangster, W. Seka, V. A. Smalyuk, A. A. Solodov, R. B. Stephens, C. Stoeckl, and B. Yaakobi, presented at the 36th EPS Conference on Plasma Physics, Sofia, Bulgaria, 29 June–3 July 2009.

"Modal Measurement of a Large-Mode-Area Photonic-Crystal Fiber Amplifier Using Spatially Resolved Spectral Interferometry," J. Bromage, C. Dorrer, J. R. Marciante, M. J. Shoup III, and J. D. Zuegel, presented at the 22nd Annual Solid State and Diode Laser Technology Review, Newton, MA, 29 June–1 July 2009.

"High-Precision Measurements of the Equation of State (EOS) of Polymers at 100 to 1000 GPa Using Laser-Driven Shock Waves," M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, presented at the

16th APS Topical Conference in Shock Compression of Condensed Matter, Nashville, TN, 28 June–3 July 2009.

"Measurements of Strain-Induced Refractive-Index Changes in Shocked LiF Using Laser-Driven Flyer Plates," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, R. Smith, J. H. Eggert, D. G. Hicks, P. M. Celliers, and G. W. Collins, presented at the 16th APS Topical Conference in Shock Compression of Condensed Matter, Nashville, TN, 28 June–3 July 2009.

"1/2 $\omega_0$ Emission from the Nonlinear Currents Generated by the Two Plasmon Decay Instability," D. DuBois, D. Russell, H. Vu, and J. Myatt, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"3/2 $\omega_0$ Emission from the LDI Langmuir Waves Excited in the Nonlinear Saturation of the Two Plasmon Decay Instability," D. Russell, D. DuBois, H. Vu, and J. Myatt, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Anistropy of Two-Plasmon Decay for Multiple Obliquely Incident Laser Beams," R. W. Short, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Extended Zakharov Modeling of the Two-Plasmon-Decay Instability in Inhomogeneous Direct-Drive ICF-Relevant Plasma," J. F. Myatt, A. V. Maximov, R. W. Short, J. A. Delettrez, W. Seka, D. H. Edgell, D. F. DuBois, H. X. Vu, and D. A. Russell, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Hot Electrons Production from the Two-Plasmon Decay Instability," H. Vu, D. DuBois, D. Russell, and J. Myatt, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Modeling of Two-Plasmon-Decay Instability Under Crossed-Beam Irradiation," A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, J. A. Delettrez, and C. Stoeckl, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Time-Dependent Scattered-Light Spectroscopy in Direct-Drive-Implosion Experiments," D. H. Edgell, W. Seka, V. N. Goncharov, I. V. Igumenshchev, R. S. Craxton, J. A. Delettrez, J. F. Myatt, A. V. Maximov, R. W. Short, R. E. Bahr, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Two-Plasmon-Decay Instability Relevant to Direct-Drive Experiments," W. Seka, D. H. Edgell, J. F. Myatt, A. V. Maximov, R. W. Short, V. N. Goncharov, D. F. DuBois, H. X. Vu, D. A. Russell, and H. A. Baldis, presented at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009.

"Cryogenic Targets for Inertial Confinement Fusion Experiments and Future Fusion-Energy Applications," D. R. Harding, D. H. Edgell, L. M. Elasky, R. Q. Gram, T. B. Jones, S. J. Verbridge, A. J. Weaver, and M. D. Wittman, presented at ICOPS/SOFE 2009, San Diego, CA, 31 May–5 June 2009.

"Cryogenic Tritium Operations at OMEGA," W. T. Shmayda, G. Wainwright, and R. Janezic, presented at ICOPS/SOFE 2009, San Diego, CA, 31 May–5 June 2009.

"All-Fiber Discrete Arbitrary Picket-Pulse Shaping," I. A. Begishev, A. V. Okishev, R. G. Roides, and J. D. Zuegel, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"A High-Resolution Amplitude and Wavefront Control System Based on a Direct Zonal Closed-Loop Approach," S.-W. Bahk and J. D. Zuegel, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Mode Control in Large-Mode-Area Fiber Lasers Via Gain Filtering," J. R. Marciante and R. G. Roides, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Near-Field Intensity Shaping with Binary Phase Plates," C. Dorrer, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Optimizing Injection into Large-Mode-Area Photonic Crystal-Fiber Amplifiers by Spatially Resolved Spectral Interferometry," J. Bromage, C. Dorrer, M. J. Shoup III, and J. D. Zuegel, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Simple High-Sensitivity, Electro-Optic Sagnac Spectral Shearing Interferometry for Short Optical Pulse Characterization," C. Dorrer and J. Bromage, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Statistical Analysis of Incoherent Pulse Shaping," C. Dorrer, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Ultrafast Pulse Characterization of Semiconductor Single-Section Fabry–Perot Mode-Locked Lasers," W. Yang and C. Dorrer, presented at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009.

"Integrated Fast- and Shock-Ignition Experiments on OMEGA," W. Theobald, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, B. Eichman, V. Yu. Glebov, O. V. Gotchev, S. Ivancic, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. M. Nilson, P. B. Radha, C. Ren, T. C. Sangster, A. A. Solodov, C. Stoeckl, M. Storm, C. D. Zhou, J. D. Zuegel, J. A. Frenje, R. D. Petrasso, P. A. Norreys, V. M. Ovchinnikov, F. F. Freeman, L. Van Woerkom, D. Hey, M. H. Key, A. J. MacKinnon, P. K. Patel, K. Akli, R. B. Stephens, and R. Lauck, presented at the Second International Conference on High Energy Density Physics, Austin, TX, 19–22 May 2009.

"Multiple-Picket, Low-Adiabat Cryogenic Fuel Compression on OMEGA," V. N. Goncharov, T. C. Sangster, T. R. Boehly, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, V. A. Smalyuk, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the Second International Conference on High Energy Density Physics, Austin, TX, 19–22 May 2009.

"Characterization and Optimization of Fast-Electron Sources Using Intense, Multi-kJ Pulses on OMEGA EP," P. M. Nilson, W. Theobald, J. F. Myatt, C. Stoeckl, P. A. Jaanimagi, J. A. Delettrez, B. Yaakobi, J. D. Zuegel, R. Betti, D. D. Meyerhofer, T. C. Sangster, P. K. Patel, A. J. Mackinnon, and K. Akli, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Diagnostic Status on OMEGA EP," T. C. Sangster, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Embedding Strong External Magnetic Fields in OMEGA Implosions—An Experimental Reality with Applications to Fusion, Exotic Plasma States, and More. The Designer and Use Perspectives," O. V. Gotchev, R. Betti, P. Y. Chang, J. P. Knauer, O. Polomarov, D. D. Meyerhofer, J. A. Frenje, C. K. Li, M. Manuel, R. D. Petrasso, and F. H. Séguin, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Engineering Support and Qualification Process for Interfacing New Experiments," G. Pien, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"First Rayleigh–Taylor and Richtmyer–Meshkov Instability Measurements in Laser-Driven Planar Targets on the OMEGA EP Laser," J. Hager, V. A. Smalyuk, I. V. Igumenshchev, D. D. Meyerhofer, and T. C. Sangster, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Measurements of Strain-Induced Refractive Index Changes in Shocked LiF Using Laser-Driven Flyer Plates," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, J. Eggert, R. Smith, D. G. Hicks, and G. Collins, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Omega Facility: Status and Performance," S. F. B. Morse, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"OMEGA Properties and Capabilities," K. A. Thorp, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Precision Equation of State (EOS) Measurements Using Laser-Driven Shock Waves on the OMEGA Laser," M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Simulations of Laser Channeling in Millimeter-Scale Underdense Plasmas for Fast Ignition," C. Ren, G. Li, R. Yan, J. Tonge, and W. B. Mori, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Status of Integrated Fast- and Shock-Ignition Experiments on OMEGA," W. Theobald, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, O. V. Gotchev, A. J. Mackinnon, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. A. Norreys, P. M. Nilson, P. K. Patel, R. D. Petrasso, P. B. Radha, C. Ren, T. C. Sangster, A. A. Solodov, R. B. Stephens, C. Stoeckl, M. Storm, and C. D. Zhou, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Status of OMEGA EP, an Experimentalist's Perspective," C. Stoeckl, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Target Fabrication: Capabilities and the Ordering Process," D. R. Harding and M. J. Bonino, presented at the OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009.

"Bulk Heating of Solid-Density Matter Using Kilojoule Pulses on OMEGA EP," P. M. Nilson, W. Theobald, J. F. Myatt, C. Stoeckl, P. A. Jaanimagi, J. A. Delettrez, C. Dorrer, J. D. Zuegel, R. Betti, D. D. Meyerhofer, T. C. Sangster, A. J. Mackinnon, P. K. Patel, and K. U. Akli, presented at the 16th International Conference on Atomic Processes in Plasmas, Monterey, CA, 22–26 March 2009.

"Experimental Investigation of Inelastic X-Ray Scattering from Shock-Heated and Compressed Deuterium," S. P. Regan, P. B. Radha, T. R. Boehly, T. Doeppner, K. Falk, V. N. Goncharov, S. H. Glenzer, G. Gregori, O. L. Landen, D. D. Meyerhofer, P. Neumayer, T. C. Sangster, and V. A. Smalyuk, presented at the International Workshop on Warm Dense Matter, Hakone, Japan, 16–19 March 2009.

"Inertial Fusion Research at the Laboratory for Laser Energetics," C. Stoeckl, K. S. Anderson, R. Betti, J. A. Delettrez, J. A. Frenje, V. N. Goncharov, V. Yu. Glebov, A. J. Mackinnon, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. A. Norreys, P. M. Nilson, R. D. Petrasso, T. C. Sangster, A. A. Solodov, R. B. Stephens, M. Storm, W. Theobald, B. Yaakobi, and C. D. Zhou, presented at the 29th International Workshop on Physics of High Energy Density in Matter, Hirschegg, Austria, 1–6 February 2009.

"Laser Ablation of Dental Calculus Around 400 nm Using a Ti:Sapphire Laser," J. E. Schoenly, W. Seka, and P. Rechmann, presented at Lasers in Dentistry XV, San Jose, CA, 24–29 January 2009.

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"Microfluidic Methods for Producing Millimeter-Size Fuel Capsules for Inertial Fusion Energy," D. R. Harding, Z. Bei, S. H. Chen, R. Q. Gram, T. Jones, M. Moynihan, and R. Garrell, presented at the 2008 MRS Fall Meeting, Boston, MA, 1–5 December 2008.

"1.0-MJ CH-Foam Ignition Targets on the NIF Using 1-D Multi-FM SSD with 0.5 THz of Bandwidth," J. A. Marozas, J. D. Zuegel, and T. J. B. Collins, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"3-D Modeling of Planar Target-Mount Perturbation Experiments on OMEGA," T. J. B. Collins, F. J. Marshall, M. J. Bonino, R. Forties, V. N. Goncharov, I. V. Igumenshchev, J. A. Marozas, P. W. McKenty, and V. A. Smalyuk, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Advanced Ignition Experiments on OMEGA," C. Stoeckl, K. S. Anderson, T. R. Boehly, R. Betti, J. A. Delettrez, V. N. Goncharov, V. Yu. Glebov, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. M. Nilson, T. C. Sangster, A. A. Solodov, M. Storm, W. Theobald, B. Yaakobi, C. D. Zhou, J. A. Frenje, R. D. Petrasso, A. J. MacKinnon, P. A. Norreys, and R. B. Stephens, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Cryogenic Target Performance and Implosion Physics Studies on OMEGA," V. A. Smalyuk, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, J. P. Knauer, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, J. M. Soures, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008 (invited).

"Demonstration of the Shock-Timing Technique for Ignition Targets," T. R. Boehly, D. H. Munro, P. M. Celliers, R. E. Olson, D. G. Hicks, V. N. Goncharov, H. F. Robey, S. X. Hu, J. A. Marozas, T. C. Sangster, O. L. Landen, and D. D. Meyerhofer, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008 (invited).

"Experimental Investigation of Thermal-Transport Models in Direct-Drive Targets Using X-Ray Absorption Spectroscopy," H. Sawada, S. P. Regan, P. B. Radha, R. Epstein, D. Li, V. N. Goncharov, S. X. Hu, D. D. Meyerhofer, J. A. Delettrez, P. A. Jaanimagi, V. A. Smalyuk, T. R. Boehly, T. C. Sangster, B. Yaakobi, and R. C. Mancini, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Fast-Electron-Energy Deposition in Dense Plasma," P. M. Nilson, W. Theobald, J. F. Myatt, C. Stoeckl, P. A. Jaanimagi, J. A. Delettrez, M. Storm, R. Betti, D. D. Meyerhofer, T. C. Sangster, J. S. Green, K. L. Lancaster, P. A. Norreys, F. Beg, R. B. Stephens, and M. H. Key, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"First Measurements of the Down-Scattered and Primary Neutron Spectrum Using the Magnetic Recoil Spectrometer (MRS) at OMEGA," J. A. Frenje, D. T. Casey, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, T. C. Sangster, D. D. Meyerhofer, and K. A. Fletcher, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"First Tests on OMEGA of a Bubble Chamber for Neutron Detection," M. C. Ghilea, T. C. Sangster, D. D. Meyerhofer, D. J. Lonobile, R. A. Lerche, and L. Disdier, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"High-Current Electron Transport Studies Using Coherent Transition Radiation," M. Storm, C. Guo, D. D. Meyerhofer, C. Mileham, J. F. Myatt, P. M. Nilson, T. C. Sangster, A. A. Solodov, C. Stoeckl, and W. Theobald, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Hohlraum Energetics with a Plastic-Lined Laser Entrance Hole," S. P. Regan, T. C. Sangster, D. D. Meyerhofer, W. Seka, R. L. McCrory, C. Stoeckl, V. Yu. Glebov, N. B. Meezan, L. J. Suter, D. J. Strozzi, E. A. Williams, W. L. Kruer, O. S. Jones, D. A. Callahan, M. D. Rosen, O. L. Landen, S. H. Glenzer, C. Sorce, and B. J. MacGowan, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Integrated Simulations of Implosion, Electron Transport, and Ignition for Direct-Drive," A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. F. Myatt, J. A. Delettrez, S. Skupsky, W. Theobald, and C. Stoeckl, Fast-Ignition Targets," presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008 (invited).

"Intense Laser-to-Fast-Electron Coupling Efficiency in Wedge-Shaped-Cavity Targets," W. Theobald, V. Ovchinnikov, B. Eichman, S. Ivancic, P. M. Nilson, C. Stoeckl, J. F. Myatt, J. A. Delettrez, L. Von Woerkom, R. R. Freeman, C. Ren, R. B. Stephens, J. D. Zuegel, and T. C. Sangster, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Initial Experiments Using the OMEGA EP Laser System," D. D. Meyerhofer, J. Bromage, V. Yu. Glebov, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, S. F. B. Morse, J. F. Myatt, P. M. Nilson, J. Qiao, T. C. Sangster, C. Stoeckl, W. Theobald, R. D. Petrasso, F. H. Séguin, J. A. Frenje, C. K. Li, A. J. MacKinnon, and

P. K. Patel, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Investigation of the Effects of Target Mounting in Direct-Drive Implosions on OMEGA," I. V. Igumenshchev, F. J. Marshall, J. A. Marozas, V. A. Smalyuk, R. Epstein, T. J. B. Collins, M. J. Bonino, V. N. Goncharov, and T. C. Sangster, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Low-Adiabat Polar-Drive Implosion Experiments on OMEGA," F. J. Marshall, R. S. Craxton, R. Epstein, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, S. Skupsky, V. A. Smalyuk, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Magnetized Hot-Spot Implosions Via Laser-Driven Flux Compression," O. V. Gotchev, R. Betti, P. Chang, J. P. Knauer, D. D. Meyerhofer, J. A. Frenje, C. K. Li, M. Manuel, R. D. Petrasso, and F. H. Séguin, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Making Positrons Using the Titan Short-Pulse Laser," H. Chen, S. C. Wilks, E. Liang, J. F. Myatt, K. Cone, L. Elberson, D. D. Meyerhofer, M. Schneider, R. Shepherd, R. Stafford, R. Tommasini, and P. Beiersdorfer, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Measurements of Ablator-Ion Spectra for Preheat and Compression Studies," N. Sinenian, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, and J. A. Delettrez, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"MHD Effects in Laser-Produced Plasmas," O. Polomarov and R. Betti, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Modeling of Multiple-Ion Heat Transport in ICF Implosions," D. Li, V. N. Goncharov, A. V. Maximov, I. V. Igumenshchev, and S. Skupsky, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Modeling Observables to Diagnose Areal Density in OMEGA Implosions," P. B. Radha, V. N. Goncharov, T. C. Sangster, R. Betti, J. A. Delettrez, S. X. Hu, D. D. Meyerhofer, S. Skupsky, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and D. Shvarts, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Modeling of Two-Plasmon-Decay Instability in OMEGA Plasmas," A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, C. Stoeckl, and J. A. Delettrez, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Multiple-Picket, Direct-Drive Target Designs for OMEGA and the NIF," V. N. Goncharov, T. C. Sangster, T. R. Boehly, P. B. Radha, R. L. McCrory, D. D. Meyerhofer, and S. Skupsky, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Nonlocal Ion-Heat and Momentum Transport in ICF Implosions," S. Skupsky, V. N. Goncharov, and D. Li, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Numerical Investigation of OMEGA Saturn Implosions," A. Shvydky, F. J. Marshall, P. W. McKenty, I. V. Igumenshchev, R. Epstein, J. A. Marozas, R. S. Craxton, T. C. Sangster, S. Skupsky, and R. L. McCrory, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Optical Properties of Materials at High Pressure Using 'Sandwich' Targets," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, S. Wilks, and R. Smith, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Optimization of Multiple-Picket, Direct-Drive Laser-Pulse Shapes with Foam Shells," J. P. Knauer, V. N. Goncharov, J. A. Delettrez, V. Yu. Glebov, F. J. Marshall, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Parametric Study of Direct-Drive, Fuel-Assembly Simulations of Fast-Ignition, Cone-in-Shell Targets," K. S. Anderson, A. A. Solodov, R. Betti, P. W. McKenty, and T. Theobald, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Precision Equation-of-State (EOS) Measurements Using Laser-Driven Shock Waves Using the OMEGA Laser," M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Precision Scattered-Laser-Light Spectroscopy in Direct-Drive Implosions," D. H. Edgell, W. Seka, J. A. Delettrez, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, J. F. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, and R. E. Bahr, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Proton Radiography of Electromagnetic Fields Associated with ICF Implosions and Laser-Irradiated Hohlraums," C. K. Li, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Rayleigh–Taylor Measurements in Planar Cryogenic $D_2$ Targets Using X-Ray Radiography on OMEGA," J. D. Hager, V. A. Smalyuk, S. X. Hu, D. D. Meyerhofer, and T. C. Sangster, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Recent Experimental Results from Cryogenic Implosions on OMEGA," T. C. Sangster, V. N. Goncharov, P. B. Radha, J. A. Delettrez, R. Betti, T. R. Boehly, V. Yu. Glebov, S. X. Hu, J. P. Knauer, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, V. A. Smalyuk, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, and D. Shvarts, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Simulation and Optimization of Backlit Images of Cryogenic Implosions on OMEGA," R. Epstein, J. A. Delettrez, V. N. Goncharov, S. X. Hu, P. W. McKenty, F. J. Marshall, P. B. Radha, V. A. Smalyuk, W. Theobald, and B. Yaakobi, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Simulations of Polar-Drive NIF Targets Optimized for High Neutron Yields," R. S. Craxton, P. W. McKenty, J. A. Marozas, and A. M. Cok, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Three-Dimensional Effects in Laser Channeling in Fast-Ignition Targets," G. Li, C. Ren, R. Yan, V. N. Goncharov, T. L. Wang, W. B. Mori, and J. Tonge, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Transport of Energetic Electrons Produced from Two-Plasmon Decay in the 1-D Hydrodynamic Code *LILAC*," J. A. Delettrez, V. N. Goncharov, A. V. Maximov, J. F. Myatt, P. B. Radha, T. C. Sangster, W. Seka, V. A. Smalyuk, C. Stoeckl, B. Yaakobi, and J. A. Frenje, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Two-Dimensional Investigation of Neutron-Yield Performance in Direct-Drive, Low-Adiabat $D_2$ Implosions on OMEGA," S. X. Hu, P. B. Radha, J. A. Marozas, R. Betti, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, J. P. Knauer, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, V. A. Smalyuk, C. Stoeckl, B. Yaakobi, and D. Shvarts, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Two-Plasmon Decay Driven by Multiple Obliquely Incident Laser Beams," R. W. Short, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Two-Plasmon-Decay Hot-Electron Distributions from Anistropic Thick-Target Bremsstrahlung Measurements," J. F. Myatt, D. H. Edgell, W. Seka, A. V. Maximov, R. W. Short, D. F. DuBois, D. A. Russell, and H. X. Vu, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Two-Plasmon-Decay Instability in Direct-Drive Implosion Experiments," W. Seka, H. A. Baldis, D. H. Edgell, J. F. Myatt, A. V. Maximov, R. S. Craxton, R. W. Short, V. N. Goncharov, A. Simon, and R. E. Bahr, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Using GEANT4 to Model the Magnetic Recoil Spectrometer (MRS) for Down-Scattered and Primary-Neutron Measurements at OMEGA," D. T. Casey, J. A. Frenje, C. K. Li, F. H. Séguin, M. Manuel, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, and T. C. Sangster, presented at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008.

"Applied Plasma Spectroscopy I: Laser Fusion Experiments," S. P. Regan, B. Yaakobi, R. Epstein, J. A. Delettrez, V. N. Goncharov, H. Sawada, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, V. A. Smalyuk, R. C. Mancini, D. A. Haynes, J. A. Koch, and R. Tommasini, presented at the 13th International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 10–14 November 2008.

"Multi-Wavelength Electro-Optic Pulse Characterization," L. Ji, W. R. Donaldson, and T. Y. Hsiang, presented at IEEE LEOS 2008, Newport Beach, CA, 9–13 November 2008.

"Single-Shot, Electro-Optic Measurements at 10 GHz with a Dynamic Range of 2400:1," W. R. Donaldson, J. R. Marciante, and R. G. Roides, presented at IEEE LEOS 2008, Newport Beach, CA, 9–13 November 2008.

"Activation of the OMEGA EP High-Energy, Short-Pulse Laser System," J. Qiao, J. H. Kelly, L. J. Waxer, B. E. Kruschwitz, I. A. Begishev, J. Bromage, S.-W. Bahk, C. Dorrer, J. L. Edwards, L. Folnsbee, M. J. Guardalben, S. J. Jacobs, R. Jungquist, T. J. Kessler, R. W. Kidder, S. J. Loucks, J. R. Marciante, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, J. B. Oliver, G. Pien, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup III, C. Stoeckl, K. A. Thorp, and J. D. Zuegel, presented at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"Construction and Activation of Large-Aperture, Tiled-Grating Compressors for High-Energy, Petawatt-Class Chirped-Pulse–Amplification Systems," J. Qiao, J. H. Kelly,

J. Bunkenburg, A. Kalb, D. Canning, and T. Nguyen, presented at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"A Focal-Spot Diagnostic for On-Shot Characterization of OMEGA EP," J. Bromage, S.-W. Bahk, D. Irwin, J. Kwiatkowski, A. Pruyne, M. Millecchia, M. Moore, and J. D. Zuegel, presented at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"High-Dynamic-Range, Single-Shot Cross-Correlator Using a Pulse Replicator," C. Dorrer, J. Bromage, and J. D. Zuegel, presented at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"High-Temporal-Contrast Target Experiments Using a Hybrid OPCPA-Nd:Glass Multi-Terawatt (MTW) Laser System," J. D. Zuegel, C. Dorrer, I. A. Begishev, J. Bromage, R. Brown, A. V. Okishev, P. M. Nilson, W. Theobald, V. Ovchinnikov, J. F. Myatt, B. Eichman, S. Ivancic, M. Storm, O. V. Gotchev, C. Stoeckl, T. C. Sangster, R. Betti, and D. D. Meyerhofer, presented at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"Spatial Chirp Smoothing Within Temporal Pulse Compression," T. J. Kessler and H. Huang, presented at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"Tools and Techniques for Focusing OMEGA EP," J. Bromage, M. Moore, S.-W. Bahk, B. E. Kruschwitz, R. Earley, D. Irwin, D. Canning, R. Jungquist, G. King, J. Kwiatkowski, D. Weiner, M. J. Shoup III, and J. D. Zuegel, at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008.

"Frictional Investigation for Magnetorheological Finishing (MRF) of Optical Glass and Hard Ceramics," C. Miao, S. N. Shafrir, H. Romanofsky, J. Mici, J. C. Lambropoulos, and S. D. Jacobs, presented at the Optical Fabrication and Testing Topical Meeting, Rochester, NY, 19–23 October 2008.

"*In-Situ* Drag Force Measurements in MRF of Optical Glasses," S. Salzman, H. Romanofsky, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at the Optical Fabrication and Testing Topical Meeting, Rochester, NY, 19–23 October 2008.

"Optical Engineering of the OMEGA EP Laser System," J. H. Kelly, R. Jungquist, L. J. Waxer, M. J. Guardalben, B. E. Kruschwitz, J. Qiao, I. A. Begishev, J. Bromage, C. Dorrer, J. L. Edwards, L. Folnsbee, S. D. Jacobs, T. J. Kessler, R. W. Kidder, S. J. Loucks, J. R. Marciante, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, J. B. Oliver, G. Pien, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup, III, K. A. Thorp, and J. D. Zuegel, presented at the Optical Fabrication and Testing Topical Meeting, Rochester, NY, 19–23 October 2008.

"Surface Artifacts in Manufacturing and Use of Large Imaging Optics" by T. J. Kessler, presented at the Optical Fabrication and Testing Topical Meeting, Rochester, NY, 19–23 October 2008 (invited).

"Surface Texture in Material Removal with MRF on Optical Ceramics," S. N. Shafrir, C. Miao, H. Romanofsky, J. C. Lambropoulos, and S. D. Jacobs, presented at the Optical Fabrication and Testing Topical Meeting, Rochester, NY, 19–23 October 2008.

"The OMEGA EP High-Energy, Short-Pulse Laser System," L. J. Waxer, J. H. Kelly, B. E. Kruschwitz, J. Qiao, I. A. Begishev, J. Bromage, C. Dorrer, J. L. Edwards, L. Folnsbee, M. J. Guardalben, S. D. Jacobs, R. Jungquist, T. J. Kessler, R. W. Kidder, S. J. Loucks, J. R. Marciante, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, J. B. Oliver, G. Pien, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup, III, C. Stoeckl, K. A. Thorp, and J. D. Zuegel, presented at Laser Science XXIV, Rochester, NY, 19–23 October 2008 (invited).

"Elimination of Self-Pulsations in Dual-Clad, Ytterbium-Doped Fiber Lasers," W. Guan and J. R. Marciante, presented at Frontiers in Optics 2008, Rochester, NY, 19–23 October 2008.

"Measurement of the Verdet Constant in a Terbium-Core–Doped Fiber," L. Sun, S. B. Jiang, J. D. Zuegel, and J. R. Marciante, presented at Frontiers in Optics 2008, Rochester, NY, 19–23 October 2008.

"Multi-Wavelength Electro-Optic Pulse Sampling," L. Ji, W. R. Donaldson, and T. Y. Hsiang, presented at Frontiers in Optics 2008, Rochester, NY, 19–23 October 2008.

"Precise Model Decomposition in Multimode Optical Fibers by Maximizing the Sum of Modal Weights," Z. Jiang and J. R. Marciante, presented at Frontiers in Optics 2008, Rochester, NY, 19–23 October 2008.

"Single-Frequency Hybrid Brillouin/Ytterbium Fiber Lasers," W. Guan and J. R. Marciante, presented at Frontiers in Optics 2008, Rochester, NY, 19–23 October 2008.

"Progress in Direct-Drive Inertial Confinement Fusion," R. L. McCrory, presented at the 22nd IAEA Fusion Energy Conference, Geneva, Switzerland 13–18 October 2008.

"OMEGA Extended Performance Short-Pulse Laser: Technology and Operational Flexibility," S. F. B. Morse, J. Bromage, C. Dorrer, M. J. Guardalben, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, D. D. Meyerhofer, J. Qiao, and L. J. Waxer, presented at the 18th Topical Meeting on the Technology of Fusion, San Francisco, CA, 28 September–2 October 2008.

"Shock Ignition of Thermonuclear Fuel with High Areal Density," R. Betti, P. W. McKenty, W. Theobald, C. D. Zhou, C. Stoeckl, K. S. Anderson, J. A. Delettrez, D. D. Meyerhofer, V. N. Goncharov, P. B. Radha, T. C. Sangster, A. A. Solodov, V. A.

Smalyuk, S. Skupsky, C. K. Li, R. D. Petrasso, J. A. Frenje, L. J. Perkins, D. Shvarts, and A. Schmitt, presented at the 18th Topical Meeting on the Technology of Fusion, San Francisco, CA, 28 September–2 October 2008.

"The OMEGA Facility: Providing Unique Capabilities for Inertial Fusion and High-Energy-Density Physics Experiments," J. M. Soures, presented at the 18th Topical Meeting on the Technology of Fusion, San Francisco, CA, 28 September–2 October 2008.

"Laser-Induced Surface Damage of Optical Materials: Absorption Sources, Initiation, Growth, and Mitigation," S. Papernov and A. W. Schmid, presented at the Boulder Damage Symposium, Boulder, CO, 22–24 September 2008.

"Optimization of Laser-Damage Resistance of Evaporated Hafnia at 351 nm," J. B. Oliver, S. Papernov, A. W. Schmid, and J. C. Lambropoulos, the Boulder Damage Symposium, Boulder, CO, 22–24 September 2008.

"Driving Gigabar Shocks with High-Power Lasers and Their Applications to Shock Ignition," W. Theobald, R. Betti, C. Stoeckl, K. S. Anderson, T. R. Boehly, J. A. Delettrez, J. A. Frenje, V. N. Goncharov, V. Yu. Glebov, C. K. Li, R. L. McCrory, D. D. Meyerhofer, L. J. Perkins, R. D. Petrasso, P. B. Radha, T. C. Sangster, W. Seka, A. A. Solodov, B. Yaakobi, and C. D. Zhou, presented at the HEDLP FESAC Workshop, Washington, DC, 25–27 August 2008.

"Fast Ignition with OMEGA/OMEGA EP," W. Theobald, C. Stoeckl, R. Betti, K. S. Anderson, T. R. Boehly, J. A. Delettrez, R. R. Freeman, J. A. Frenje, V. N. Goncharov, V. Yu. Glebov, D. R. Harding, M. H. Key, A. J. MacKinnon, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. M. Nilson, A. V. Okishev, P. K. Patel, R. D. Petrasso, C. Ren, T. C. Sangster, W. Seka, R. B. Stephens, A. A. Solodov, L. Van Woerkom, B. Yaakobi, and C. D. Zhou, presented at the HEDLP FESAC Workshop, Washington, DC, 25–27 August 2008.

"Laser-Damage Resistant Photoalignment Layers for High-Peak-Power Liquid Crystal Device Applications," K. L. Marshall, J. Gan, G. Mitchell, S. Papernov, A. L. Rigatti, A. W. Schmid, and S. D. Jacobs, presented at SPIE Optics and Photonics, San Diego, CA, 10–14 August 2008.

"Minimizing Contamination to Multilayer Dielectric Diffraction Gratings Within a Large Vacuum System," B. Ashe, G. Myhre, D. Mastrosimone, and C. McAtee, presented at SPIE Optics and Photonics, San Diego, CA, 10–14 August 2008.

"The Optics Suitcase and Liquid Crystal Mood Patches," T. Pfunter and S. D. Jacobs, presented at the Boulder Workshop on Light-Controlled Liquid Crystalline Complex Adaptive Materials, Boulder, CO, 6 August 2008.

"Magnetized Hot-Spot Implosions on OMEGA," O. V. Gotchev, P. Chang, J. P. Knauer, D. D. Meyerhofer, R. Betti, F. H. Séguin, C. K. Li, J. A. Frenje, and R. D. Petrasso, presented at the ICC 2008 Workshop, Reno, NV, 24–27 June 2008.

"Fast-Ignition Target Design and Experimental-Concept Validation on OMEGA," C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, J. A. Delettrez, J. A. Frenje, V. N. Goncharov, V. Yu. Glebov, J. H. Kelly, A. J. Mackinnon, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, J. F. Myatt, P. A. Norreys, P. M. Nilson, R. D. Petrasso, T. C. Sangster, A. A. Solodov, R. B. Stephens, M. Storm, W. Theobald, L. J. Waxer, B. Yaakobi, and C. D. Zhou, presented at the 10th International Workshop on Fast Ignition of Fusion Targets, Crete, Greece, 12–18 June 2008 (invited).

"Integrated Simulations of Hot-Electron Transport and Ignition for Direct-Drive, Fast-Ignition Fusion Targets," A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. F. Myatt, J. A. Delettrez, and S. Skupsky, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Modeling of Two-Plasmon-Decay Instability Driven by Crossing Laser Beams," A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, C. Stoeckl, and J. A. Delettrez, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Optimization of Neutron Yields on the NIF from Room-Temperature DT Targets," R. S. Craxton, P. W. McKenty, J. A. Marozas, and A. M. Cok, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Radiative-Transport Modeling Relevant to Cryogenic Implosion Simulation and Diagnosis," R. Epstein, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, F. J. Marshall, P. B. Radha, H. Sawada, and B. Yaakobi, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Simulations of the Effect of Energetic Electrons Produced from Two-Plasmon Decay in the 1-D Hydrodynamic Code *LILAC*," J. A. Delettrez, V. N. Goncharov, P. B. Radha, D. Shvarts, C. Stoeckl, B. Yaakobi, A. V. Maximov, W. Seka, J. A. Frenje, J. F. Myatt, T. C. Sangster, and V. A. Smalyuk, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Status of the OMEGA EP Laser System," T. C. Sangster, J. H. Kelly, S. J. Loucks, D. D. Meyerhofer, S. F. B. Morse, R. L. McCrory, and C. Stoeckl, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Time-Dependent Scattered-Laser-Light Spectroscopy in Direct-Drive Inertial Confinement Fusion Experiments," D. H. Edgell, W. Seka, J. A. Delettrez, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, J. F. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, and R. E. Bahr, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Two-Plasmon-Decay Hot-Electron Distribution from Anistropic Thick-Target Bremsstrahlung Measurements," J. Myatt, D. H. Edgell, W. Seka, A. V. Maximov, and R. W. Short, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Two-Plasmon-Decay Instability in Direct-Drive Implosion Experiments," W. Seka, D. H. Edgell, J. F. Myatt, A. V. Maximov, R. W. Short, C. Stoeckl, R. E. Bahr, R. S. Craxton, J. A. Delettrez, and V. N. Goncharov, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Two-Plasmon Decay of Multiple Obliquely Incident Laser Beams in Direct-Drive Geometry," R. W. Short, presented at the 38th Annual Anomalous Absorption Conference, Williamsburg, VA, 1–6 June 2008.

"Cryogenic-DT-Foam Targets: The New Frontier," D. R. Harding, T. B. Jones, Z. Bei, D. H. Edgell, and S. H. Chen, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Effects of Process Limitations and Shell Composition on Cryogenic Target Layers," S. J. Verbridge, A. J. Weaver, D. R. Harding, and L. M. Elasky, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Effects of Target Assembly on the Quality of Cryogenic Ice Layers," M. J. Bonino, D. R. Harding, and L. M. Elasky, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Electric-Field-Assisted Target Fabrication," T. B. Jones, Z. Bei, and D. R. Harding, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Performance and Capabilities of the Cryogenic Fill-Tube Target Test Facility at LLE," M. D. Wittman and D. R. Harding, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Success of Layering with DT and Developments with $D_2$ in OMEGA Cryogenic Targets," L. M. Elasky, S. J. Verbridge, A. J. Weaver, and D. R. Harding, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Three-Dimensional Characterization of Cryogenic Targets Using X-Ray Phase-Contrast Imaging and Shadowgraphy," D. H. Edgell, M. D. Wittman, R. S. Craxton, L. M. Elasky, D. R. Harding, and W. Seka, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Tritium Management on OMEGA at the Laboratory for Laser Energetics," G. P. Wainwright and W. T. Shmayda, presented at the 18th Target Fabrication Meeting, Lake Tahoe, CA, 11–15 May 2008.

"Neutron Bang Time Detector Based on a Light Pipe," V. Yu. Glebov, M. Moran, C. Stoeckl, T. C. Sangster, and M. Cruz, presented at the 17th Topical Conference on High-Temperature Plasma Diagnostics, Albuquerque, NM, 11–15 May 2008.

"Relativistic Electron-Beam Transport Measurements," M. Storm, C. Guo, D. D. Meyerhofer, J. Myatt, T. C. Sangster, and C. Stoeckl, presented at the 17th Topical Conference on High-Temperature Plasma Diagnostics, Albuquerque, NM, 11–15 May 2008 (invited).

"Tests and Calibration of the NIF Neutron Time-of-Flight Diagnostic," Z. A. Ali, V. Yu. Glebov, M. Cruz, T. Duffy, C. Stoeckl, S. Roberts, T. C. Sangster, R. Tommasini, and S. Throop, presented at the 17th Topical Conference on High-Temperature Plasma Diagnostics, Albuquerque, NM, 11–15 May 2008.

"A Thomson Parabola for the Multiterawatt Laser Facility," C. G. Freeman, C. Stoeckl, T. C. Sangster, T. Duffy, and C. Mileham, presented at the 17th Topical Conference on High-Temperature Plasma Diagnostics, Albuquerque, NM, 11–15 May 2008.

"Application of Phase Retrieval for Predicting a High-Intensity-Focused Laser Field," S.-W. Bahk, J. Bromage, J. D. Zuegel, and J. R. Fienup, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"Effect of Jitter on Linear Self-Referencing Pulse-Characterization Techniques," C. Dorrer, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"Extreme-Contrast Front End for High-Power Laser Systems," C. Dorrer, I. A. Begishev, A. V. Okishev, and J. D. Zuegel, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"High-Dynamic-Range, Single-Shot Cross-Correlator Using a Pulse Replicator," C. Dorrer, J. Bromage, and J. D. Zuegel, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"Multimillijoule Picosecond Regenerative Differentiator-Amplifier," A. V. Okishev, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"The OMEGA EP High-Energy, Short-Pulse Laser System," L. J. Waxer, J. H. Kelly, B. E. Kruschwitz, S. F. B. Morse, J. Qiao, I. A. Begishev, J. Bromage, C. Dorrer, J. L. Edwards, L. Folnsbee, M. J Guardalben, S. D. Jacobs, R. Jungquist, T. J. Kessler, R. W. Kidder, S. J. Loucks, J. R. Marciante, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, A. V. Okishev, J. B. Oliver, G. Pien, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup III, C. Stoeckl, K. A. Thorp, and J. D. Zuegel, presented at CLEO 2008, San Jose, CA, 6–8 May 2008 (invited).

"Optical Parametric Chirped-Pulse–Amplification Contrast Enhancement by Regenerative Pump Spectral Filtering," C. Dorrer, A. V. Okishev, I. A. Begishev, J. D. Zuegel, V. I. Smirnov, and L. B. Glebov, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"Realization of Tiled-Grating Compressors for the OMEGA EP Petawatt Laser System," J. Qiao, A. Kalb, J. H. Kelly, D. Canning, T. Nguyen, and J. Bunkenburg, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"Suppression of Self-Pulsations in Dual-Clad Ytterbium-Doped Fiber Lasers," W. Guan and J. R. Marciante, presented at CLEO 2008, San Jose, CA, 6–8 May 2008.

"Drag Force and Surface Texture in Material Removal with MRF on Optical Glass and Hard Ceramics," S. N. Shafrir, S. D. Jacobs, S. Adar, C. Miao, H. Romanofsky, and J. C. Lambropoulos, presented at the 12th Department of Defense Electromagnetic Windows Symposium, Redstone Arsenal, AL, 28 April–1 May 2008.

"In-Situ Drag Force and Normal Force Measurement for Magnetorheological Finishing (MRF) of Hard Ceramics," C. Miao, S. N. Shafrir, S. Adar, H. Romanofsky, and S. D. Jacobs, presented at the 16th Symposium on Materials Research, Rochester, NY, 22 April 2008.

"Hydrodynamic Jet Experiments at LLE," J. P. Knauer, S. Sublett, R. S. Craxton, T. J. B. Collins, I. V. Igumenshchev, D. D. Meyerhofer, A. Frank, and R. P. Drake, presented at the APS April Meeting 2008, St. Louis, MO, 12–15 April 2008.

"Creating and Probing Matter Compressed and Heated by Shock Waves on OMEGA," S. P. Regan, H. Sawada, D. D. Meyerhofer, P. B. Radha, J. A. Delettrez, R. Epstein, V. N. Goncharov, D. Li, V. A. Smalyuk, T. C. Sangster, B. Yaakobi, and R. C. Mancini, presented at HEDP/HEDLA–08, St. Louis, MO, 11–15 April 2008.

"HED Physics Opportunities on OMEGA/OMEGA EP," D. D. Meyerhofer, presented at HEDP/HEDLA–08, St. Louis, MO, 11–15 April 2008.

"A Neutron Bang Time (NBT) Detector for the THD Campaign on the NIF," V. Yu. Glebov, T. C. Sangster, C. Stoeckl, M. Cruz, S. Roberts, M. Moran, and R. A. Lerche, presented at the NIF Diagnostic Workshop, Los Alamos National Laboratory, Los Alamos, NM, 28 March 2008.

"The NIF Neutron Time-of-Flight (nTOF) Diagnostic Status and Plans," V. Yu. Glebov, T. C. Sangster, C. Stoeckl, T. Duffy, M. Cruz, S. Roberts, M. Moran, and R. A. Lerche, L. Dauffy, R. Tommasini, A. Throop, J. Celeste, Z. A. Ali, and C. J. Horsfield, presented at the NIF Diagnostic Workshop, Los Alamos National Laboratory, Los Alamos, NM, 28 March 2008.

"The OMEGA/OMEGA EP Laser System: New Frontiers in ICF and HEDP Research," A. V. Okishev, presented at X Khariton's Topical Scientific Readings, Sarov, Russia, 11–14 March 2008.

"OMEGA and OMEGA EP Provide Unique Capabilities for NLUF Programs," J. M. Soures and D. D. Meyerhofer, presented at the NNSA–SSAA Symposium, Washington, DC, 26–28 February 2008.

"Fusion-Power and Hydrogen-Economy Community Material Issues," W. T. Shmayda, presented at the American Ceramic Society Conference, Cocoa Beach, FL, 24–27 February 2008.

"OMEGA EP High-Energy Petawatt Laser: Status and Progress," T. C. Sangster, presented at JOWOG '08, Los Alamos, NM, 4–8 February 2008.

"Optical Differentiator Based on a Regenerative Amplifier with an Intracavity Tunable Volume Bragg Grating Filter," A. V. Okishev, V. I. Smirnov, L. B. Glebov, and J. D. Zuegel, presented at Advanced Solid-State Photonics, Nara, Japan, 27–30 January 2008.

**2007**

"Research Plans for OMEGA EP," J. M. Soures, presented at FPA Annual Symposium, Oak Ridge, TN, 4–5 December 2007.

"Development of Fast CVD Diamond Detectors for Inertial Confinement Fusion Experiments," V. Yu. Glebov, T. C. Sangster, C. Stoeckl, S. Roberts, C. Mileham, O. Landoas, L. Disdier, M. Houry, M. Briat, B. Brullot, Ph. Bergonzo, H. Hamrita, and D. Tromson, presented at the Materials Research Society 2007 Fall Meeting, Boston, MA, 26–30 November 2007.

"Alternative Laser-Speckle-Smoothing Schemes for the NIF," J. A. Marozas, T. J. B. Collins, and J. D. Zuegel, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"The CR-39 Coincidence Counting Technique for Enhanced Signal-to-Background in a Large Range of Charged-Particle Measurements on OMEGA and the NIF," D. T. Casey, J. A. Frenje, S. C. McDuffee, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, and T. C. Sangster, presented at 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12−16 November 2007.

"Design of a Positron–Electron Pair-Plasma Production Experiment on OMEGA EP," J. Myatt, A. V. Maximov, R. W. Short, and D. D. Meyerhofer, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12−16 November 2007.

"Development of Shock-Timing Techniques for the National Ignition Facility," T. R. Boehly, M. A. Barrios, D. E. Fratanduono, T. C. Sangster, D. D. Meyerhofer, P. M. Celliers, D. Munro, G. W. Collins, O. L. Landen, and R. E. Olson, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Direct-Drive Fuel-Assembly Simulations of Fast-Ignition Cone-in-Shell Implosions," K. S. Anderson, R. Betti, I. V. Igumenshchev, P. W. McKenty, P. B. Radha, W. Theobald, C. Stoeckl, and M. M. Marinak, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"The Effect of Target Mounts in Direct-Drive Implosions on OMEGA," I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, M. J. Bonino, P. W. McKenty, D. D. Meyerhofer, and T. C. Sangster, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12-16 November 2007.

"Effects of Preheating on Compression and Rayleigh–Taylor Growth in Planar Plastic Targets on OMEGA," V. A. Smalyuk, J. A. Delettrez, V. N. Goncharov, S. X. Hu, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, D. Shvarts, C. Stoeckl, B. Yaakobi, J. A. Frenje, and R. D. Petrasso, presented at 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Elemental Analysis of Carbon Disks Using Proton Induced X-Ray Emission," M. Cummings, K. Donovan, S. Padalino, V. Glebov, and T. C. Sangster, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Evaluation and Modeling of Neutron Reaction Histories Using a Directly Driven Capsule with Two Laser Pulses," J. H. Cooley, L. Welser-Sherrill, D. C. Wilson, H. W. Herrmann, J. M. Mack, S. C. Evans, T. J. Sedillo, C. J. Horsfield, D. W. Drew, E. K. Miller, and V. Yu. Glebov, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"First Measurements of the Neutron Spectrum Using the Magnetic Recoil Spectrometer (MRS) at OMEGA," J. A. Frenje, D. T. Casey, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, and T. C. Sangster, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"First Tests on OMEGA of a Bubble Chamber for Neutron Detection," M. Ghilea, D. D. Meyerhofer, T. C. Sangster, D. J. Lonobile, A. Dillenbeck, R. A. Lerche, and L. Disdier, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Forming Cryogenic DT Targets for OMEGA," D. R. Harding, D. H. Edgell, and L. M. Elasky, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"High-Areal-Density Cryogenic $D_2$ Implosions on OMEGA," T. C. Sangster, V. N. Goncharov, V. A. Smalyuk, R. Betti, D. Shvarts, P. B. Radha, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, F. J. Marshall, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"High-Brightness ~keV Source Development," C. Stoeckl, W. Theobald, P. A. Jaanimagi, P. Nilson, M. Storm, J. A. Delettrez, R. Epstein, T. C. Sangster, D. Hey, A. J. MacKinnon, H.-S. Park, P. K. Patel, R. Shepherd, J. Green, K. L. Lancaster, and P. A. Norreys, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"High Spatially Resolved Measurements of MeV Electron Beam Transport Through Solids Using Coherent Transition Radiation," M. Storm, D. D. Meyerhofer, C. Mileham, J. Myatt, P. Nilson, T. C. Sangster, C. Stoeckl, and W. Theobald, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"High-Intensity Laser–Plasma Interactions in the Refluxing Limit," P. Nilson, W. Theobald, J. Myatt, C. Stoeckl, C. Mileham, M. Storm, O. V. Gotchev, I. A. Begishev, J. Brown, J. D. Zuegel, R. Betti, D. D. Meyerhofer, and T. C. Sangster, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007 (invited).

"Hohlraum Hot-Electron Production," S. P. Regan, T. C. Sangster, D. D. Meyerhofer, W. Seka, B. Yaakobi, R. L. McCrory, C. Stoeckl, V. Yu. Glebov, N. B. Meezan, B. Kruer, L. J. Suter, E. A. Williams, O. S. Jones, D. A. Callahan, M. D. Rosen, O. L. Landen, S. H. Glenzer, C. Sorce, and B. J. MacGowan, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Hydrodynamic Relations for Direct-Drive, Fast-Ignition Inertial Confinement Fusion Implosions," C. D. Zhou and R. Betti, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Impact of Cryogenic Temperatures on the Mechanical Properties of *Steatoda Triangulosa* Spider Silk," E. Pogozelski, B. See, C. Kieffer, W. Becker, S. Padalino, and C. Sangster, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Integrated Simulation of Fast-Ignition ICF," A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. Myatt, J. A. Delettrez, and S. Skupsky, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Initial Experiments on the Shock-Ignition Inertial Confinement Fusion Concept," W. Theobald, R. Betti, C. Stoeckl, K. S. Anderson, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, D. Shvarts, V. A. Smalyuk, A. A. Solodov, B. Yaakobi, C. D. Zhou, J. A. Frenje, C. K. Li, F. H. Seguin, R. D. Petrasso, and L. J. Perkins, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007 (invited).

"Initial Polar-Direct-Drive Designs to Optimize Neutron Yields on the NIF," R. S. Craxton, A. M. Cok, and P. W. McKenty, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Investigation of Shock Heating and Heat-Front Penetration in Direct-Drive Targets Using Absorption Spectroscopy," H. Sawada, S. P. Regan, P. B. Radha, R. Epstein, V. N. Goncharov, D. D. Meyerhofer, V. A. Smalyuk, T. C. Sangster, B. Yaakobi, and R. C. Mancini, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Irradiation Uniformity in Direct-Drive Simulations Using 3-D Ray Trace," A. Shvydky, I. V. Igumenshchev, D. Keller, J. A. Marozas, P. W. McKenty, and S. Skupsky, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Kinetic and Fluid Models of the Filamentation Instability of Relativistic Electron Beams for Fast-Ignition Conditions," R. W. Short and J. Myatt, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Laser Channeling in Millimeter-Scale Underdense Plasmas of Fast Ignition," G. Li, C. Ren, R. Yan, V. N. Goncharov, T. L. Wang, W. B. Mori, and J. Tonge, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Laser-Driven Magnetic-Flux Compression Experiments on the OMEGA Laser," O. V. Gotchev, P. Y. Chang, N. W. Jang, J. P. Knauer, D. D. Meyerhofer, R. Betti, C. K. Li, J. A. Frenje, F. H. Séguin, and R. D. Petrasso, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Measurable Lawson Criterium and Hydro-Equivalent Curves for Inertial Confinement Fusion," R. Betti and C. D. Zhou, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Measuring Positron Annihilation in Na(Tl) Detectors as the Final Stage in a Carbon Diagnostic," M. Braaten, C. Brown, S. Padalino, V. Glebov, T. C. Sangster, and T. Duffy, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Modeling a Carbon Diagnostic System Using MCNPX," S. H. Fay, C. M. Kuhn, E. E. Smith, S. L. Stephenson, T. C. Sangster, V. Glebov, and S. J. Padalino, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Modeling Ion Heat Transport in ICF Targets," D. Li, V. N. Goncharov, I. V. Igumenshchev, and S. Skupsky, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Multidimensional Numerical Investigation of NIF Saturn PDD Designs with 3-D Laser Ray Tracing," P. W. McKenty, A. Shvydky, T. J. B. Collins, J. A. Marozas, S. Skupsky, D. Keller, D. D. Meyerhofer, and R. L. McCrory, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12−16 November 2007.

"Neutron-Induced Signal Measurements in Coaxial Cables on OMEGA," V. Yu. Glebov, T. C. Sangster, C. Stoeckl, S. Roberts, W. Bittle, J. L. Bourgade, J. L. Leray, and R. A. Lerche, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"NIF Conceptual Design Studies of Bang Time Diagnostics Using d-t Fusion Gamma Rays," J. Mack, C. Young, S. Evans, H. Herrmann, M. Moran, R. Malone, and V. Glebov, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Noble Gas Analysis for the OMEGA Gas Sampling System," G. T. Young, S. M. Hupcher, C. G. Freeman, M. A. Stoyer, and T. C. Sangster, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Nonequilibrium Conditions in a Shock Front," D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, S. Wilks, and J. E. Miller, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Nonlocal Ion-Heat Transport and Viscosity in ICF Implosions Using a Quasi-Monte Carlo Approach," S. Skupsky, V. N. Goncharov, and D. Li, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12−16 November 2007.

"OMEGA EP: Status and Use Planning," D. D. Meyerhofer, J. H. Kelly, S. J. Loucks, R. L. McCrory, S. F. B. Morse, and C. Stoeckl, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"OMEGA Laser-Driven Hydrodynamic Plasma Jet Experiments with Relevance to Astrophysics," S. Sublett, J. P. Knauer, D. D. Meyerhofer, and A. Frank, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Performance of Direct-Drive Cryogenic Targets on OMEGA," V. N. Goncharov, T. C. Sangster, P. B. Radha, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, V. Yu. Glebov, S. X. Hu, I. V. Igumenshchev, R. Janezic, S. J. Loucks, J. R. Marciante, J. A. Marozas, F. J. Marshall, D. N. Maywar, J. P. Knauer, P. W. McKenty, S. P. Regan, R. G. Roides, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. Betti, R. L. McCrory, D. D. Meyerhofer, D. Shvarts, J. A. Frenje, R. D. Petrasso, and C. K. Li, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007 (invited).

"Plasma Physics Research at an Undergraduate Institution," S. Padalino, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Preparation of Deuterated Polymer Targets for the OMEGA Magnetic Recoil Spectrometer," J. Strain, G. Rawcliffe, J. Katz, K. Fletcher, J. Frenje, and S. MacMullin, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Progress in Direct-Drive Inertial Confinement Fusion Research," R. L. McCrory, D. D. Meyerhofer, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. W. Jacobs-Perkins, J. P. Knauer, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007 (review talk).

"Radiative Transport Modeling Relevant to Cryogenic Implosion Simulation and Diagnosis," R. Epstein, J. A. Delettrez, V. N. Goncharov, J. P. Knauer, P. W. McKenty, F. J. Marshall, D. Li, P. B. Radha, S. P. Regan, H. Sawada, and B. Yaakobi, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Rayleigh–Taylor Growth and Spherical Compression Measurements of Silicon-Doped Ablators," J. P. Knauer, P. B. Radha, V. N. Goncharov, I. V. Igumenshchev, R. Betti, R. Epstein, F. J. Marshall, S. P. Regan, V. A. Smalyuk, D. D. Meyerhofer, and S. Skupsky, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Scattered-Laser-Light Spectroscopy in Direct-Drive Implosion Experiments," D. H. Edgell, W. Seka, J. A. Delettrez, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, J. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, and R. E. Bahr, presented at the

49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Single-Beam Smoothing Requirements for Wetted-Foam, Direct-Drive NIF Ignition Target Designs," T. J. B. Collins, J. A. Marozas, P. W. McKenty, P. B. Radha, S. Skupsky, and J. D. Zuegel, presented at 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Time-Resolved Absorption in Cryogenic and Room-Temperature, Direct-Drive Implosions," W. Seka, D. H. Edgell, J. P. Knauer, J. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, C. Stoeckl, R. E. Bahr, R. S. Craxton, J. A. Delettrez, V. N. Goncharov, I. V. Igumenshchev, and D. Shvarts, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007 (invited).

"Transport of Energetic Electrons Produced from Two-Plasmon Decay in the 1-D Hydrodynamic Code *LILAC*," J. A. Delettrez, D. Shvarts, P. B. Radha, C. Stoeckl, V. A. Smalyuk, A. V. Maximov, T. C. Sangster, R. D. Petrasso, and J. A. Frenje, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Two-Plasmon-Decay Instability Driven by Incoherent Laser Irradiation," A. V. Maximov, J. Myatt, R. W. Short, W. Seka, and C. Stoeckl, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Using Beam Pushing and Pointing to Control Indirect Drive Implosion Symmetry," G. A. Kyrala, A. Seifter, N. M. Hoffman, D. C. Wilson, S. R. Goldman, N. D. Delamater, V. Glebov, C. Stoeckl, F. Marshall, C. K. Li, and J. Frenje, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Using Doped Ablators on OMEGA to Achieve a Low-Adiabat Cryogenic Implosion at High Intensities," P. B. Radha, J. P. Knauer, T. C. Sangster, V. N. Goncharov, I. V. Igumenshchev, R. Betti, R. Epstein, D. D. Meyerhofer, S. P. Regan, V. A. Smalyuk, S. Skupsky, J. A. Frenje, C. K. Li, and R. D. Petrasso, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Validation of Thermal Transport Modeling in Direct-Drive Targets Using Planar-Foil Experiments on OMEGA," S. X. Hu, V. A. Smalyuk, V. N. Goncharov, P. B. Radha, J. P. Knauer, T. C. Sangster, D. D. Meyerhofer, I. V. Igumenshchev, J. A. Marozas, and S. Skupsky, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"VELoCiRaPTORS," J. Lundgren, B. Esham, S. J. Padalino, T. C. Sangster, and V. Glebov, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"X-Ray Spectral Measurements of Cryogenic Capsules Imploded by OMEGA," F. J. Marshall, J. P. Knauer, T. C. Sangster, J. A. Delettrez, P. W. McKenty, R. Epstein, V. N. Goncharov, and B. Yaakobi, presented at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007.

"Laser Development at the Laboratory for Laser Energetics," T. J. Kessler, presented at the 10th Annual Directed Energy Symposium, Huntsville, AL, 5–8 November 2007.

"Enhanced-Dynamic-Range, Single-Shot Measurement of Nanosecond Pulses via Optical Replication," J. R. Marciante, W. R. Donaldson, and R. G. Roides, presented at IEEE/LEOS, Lake Buena Vista, FL, 21–25 October 2007.

"Minimizing Contamination to Multilayer Dielectric Diffraction Gratings Within a Large Vacuum System," B. Ashe, K. L. Marshall, D. Mastrosimone, and C. McAtee, presented at the 54th AVS International Symposium, Seattle, WA, 14–19 October 2007.

"Accessing Information and Maintaining Configuration Control of the OMEGA EP Laser System," J. L. Edwards, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"Availability and Effectiveness Planning on OMEGA EP," S. F. B. Morse, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"Cryogenic DT Target Operations in the LLE OMEGA Facility," R. Janezic, L. M. Elasky, D. R. Harding, and S. J. Loucks, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"LLE Overview," S. J. Loucks, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"Multi-Facility Diagnostic Development," G. Pien, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"OMEGA EP Activation Status," B. E. Kruschwitz, L. J. Waxer, and J. H. Kelly, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"Operational Issues Related to OMEGA and OMEGA EP Optics," A. L. Rigatti, presented at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007.

"Fast-Ignition Research at the Laboratory for Laser Energetics," T. C. Sangster, R. Betti, K. S. Anderson, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, D. Shvarts, V. A. Smalyuk, R. B. Stephens, C. Stoeckl, B. Yaakobi, C. D. Zhou, J. A. Frenje, C. K. Li, F. H. Seguin, and

R. D. Petrasso, presented at the 1st International Conference on Ultra-Intense Laser Interaction Sciences, Bordeaux, France, 1–5 October 2007.

"Damage Thresholds and Morphology of the Front- and Back-Irradiated $SiO_2$ Thin Films Containing Gold Nanoparticles as Artificial Absorbing Defects," S. Papernov, A. W. Schmid, J. B. Oliver, and A. L. Rigatti, presented at the Boulder Damage Symposium, Boulder, CO, 24–26 September 2007.

"Optimizing a Cleaning Process for Multilayer-Dielectric- (MLD) Diffraction Grating," B. Ashe, C. Giacofei, G. Myhre, and A. W. Schmid, presented at the Boulder Damage Symposium, Boulder, CO, 24–26 September 2007.

"Optical Control of Flip-Flops Based on Resonant-Type SOA's," D. N. Maywar, presented at the University of Tokyo Seminar, Tokyo, Japan, 18 September 2007.

"LLE's High-Pressure DT-Fill-Process Control System," T. Duffy, W. T. Shmayda, R. Janezic, S. J. Loucks, and J. Reid, presented at the 8th International Conference on Tritium Science and Technology, Rochester, NY, 16–21 September 2007.

"Operational Experience of Tritium Handling During LLE's Cryogenic Target Filling Operation," R. T. Janezic, W. T. Shmayda, G. P. Wainwright, P. Regan, K. Lintz, D. R. Harding, and S. J. Loucks, presented at the 8th International Conference on Tritium Science and Technology, Rochester, NY, 16–21 September 2007.

"Operation of a 2.6-Mg/Year Heavy-Water Detritiation Plant," W. T. Shmayda, C. R. Shmayda, C. Waddington, and R. D. Gallagher, presented at the 8th International Conference on Tritium Science and Technology, Rochester, NY, 16–21 September 2007.

"Tritium Capture with Getter-Bed Technology at the Laboratory for Laser Energetics," G. P. Wainwright, W. T. Shmayda, R. T. Janezic, and P. Regan, presented at the 8th International Conference on Tritium Science and Technology, Rochester, NY, 16–21 September 2007.

"Tritium Management on OMEGA at the Laboratory for Laser Energetics," W. T. Shmayda, S. J. Loucks, R. T. Janezic, G. P. Wainwright, and T. Duffy, presented at the 8th International Conference on Tritium Science and Technology, Rochester, NY, 16–21 September 2007.

"ASE Suppression in a Diode-Pumped Nd:YLF Regenerative Amplifier Using a Volume Bragg Grating," A. V. Okishev, C. Dorrer, V. I. Smirnov, L. B. Glebov, and J. D. Zuegel, presented at Frontiers in Optics 2007/Laser Science XXIII, San Jose, CA, 16–20 September 2007.

"Cryogenic Target-Implosion Experiments on OMEGA," D. R. Harding, D. D. Meyerhofer, T. C. Sangster, S. J. Loucks, R. L. McCrory, R. Betti, J. A. Delettrez, D. H. Edgell, L. M. Elasky, R. Epstein, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, I. V.

Igumenshchev, D. Jacobs-Perkins, R. J. Janezic, J. P. Knauer, L. D. Lund, J. R. Marciante, F. J. Marshall, D. N. Maywar, P. W. McKenty, P. B. Radha, S. P. Regan, R. G. Roides, W. Seka, W. T. Shmayda, S. Skupsky, V. A. Smalyuk, C. Stoeckl, B. Yaakobi, J. D. Zuegel, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"Hohlraum Energetics and Implosion Symmetry with Elliptical Phase Plates Using a Multi-Cone Beam Geometry on OMEGA," S. P. Regan, T. C. Sangster, D. D. Meyerhofer, W. Seka, R. Epstein, S. J. Loucks, R. L. McCrory, C. Stoeckl, V. Yu. Glebov, O. S. Jones, D. Callahan, P. A. Amendt, N. B. Meezan, L. J. Suter, M. D. Rosen, O. L. Landen, E. L. DeWald, S. H. Glenzer, C. Sorce, S. Dixit, R. E. Turner, and B. MacGowan, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"Modeling High-Compression, Direct-Drive ICF Experiments," V. N. Goncharov, P. B. Radha, R. Betti, T. J. B. Collins, J. A. Delettrez, R. Epstein, S. X. Hu, I. V. Igumenshchev, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, V. A. Smalyuk, and D. Shvarts, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"Multidimensional Numerical Investigation of NIF Polar-Direct-Drive Designs with Full Beam Smoothing," P. W. McKenty, T. J. B. Collins, J. A. Marozas, S. Skupsky, D. R. Harding, J. D. Zuegel, D. Keller, A. Shvydky, D. D. Meyerhofer, and R. L. McCrory, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"Nonlocal Ion-Heat and Momentum Transport in ICF Implosions," S. Skupsky, V. N. Goncharov, and D. Li, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"OMEGA EP High-Energy Petawatt Laser: Progress and Prospects," D. N. Maywar, J. H. Kelly, L. J. Waxer, S. F. B. Morse, I. A. Begishev, J. Bromage, C. Dorrer, J. L. Edwards, L. Folnsbee, M. J. Guardalben, S. D. Jacobs, R. Jungquist, T. J. Kessler, R. W. Kidder, B. E. Kruschwitz, S. J. Loucks, J. R. Marciante, R. L. McCrory, D. D. Meyerhofer, A. V. Okishev, J. B. Oliver, G. Pien, J. Qiao, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup, III, C. Stoeckl, K. A. Thorp, and J. D. Zuegel, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"The Role of Fast-Electron Preheating in Low-Adiabat Cryogenic Implosions on OMEGA," D. Shvarts, V. A. Smalyuk, R. Betti, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, F. J. Marshall, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, IFSA 2007, Kobe, Japan, 9–14 September 2007.

"Shock Ignition of Thermonuclear Fuel with High Areal Densities," R. Betti, W. Theobald, C. D. Zhou, K. S. Anderson, P. W. McKenty, D. Shvarts, and C. Stoeckl, presented at IFSA 2007, Kobe, Japan, 9–14 September 2007.

"Competition Between the Resistive Weibel Instability and the Electrothermal Instability in Fast Ignition," M. G. Haines and J. Myatt, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Determination of Hot-Electron Conversion Efficiency and Isochoric Heating of Low-Mass Targets Irradiated by the Multi-Terawatt Laser," J. Myatt, P. Nilson, W. Theobald, M. Storm, A. V. Maximov, and R. W. Short, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Effects of Hot-Electron Preheat in Direct-Drive Experiments on OMEGA," V. A. Smalyuk, D. Shvarts, R. Betti, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Integrated Simulation of Fast-Ignition ICF," A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. Myatt, J. A. Delettrez, and S. Skupsky, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Laser–Plasma Interaction Processes Observed in Direct-Drive Implosion Experiments," W. Seka, D. H. Edgell, J. P. Knauer, C. Stoeckl, V. N. Goncharov, I. V. Igumenshchev, J. A. Delettrez, J. Myatt, A. V. Maximov, R. W. Short, and T. C. Sangster, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Modeling of Two-Plasmon-Decay Instability Under Incoherent Laser Irradiation," A. V. Maximov, J. Myatt, R. W. Short, W. Seka, and C. Stoeckl, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Modeling the Filamentation Instability of Relativistic Electron Beams for Fast Ignition," R. W. Short and J. Myatt, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"The Role of Fast-Electron Preheating in Low-Adiabat Cryogenic and Plastic (CH) Shell Implosions on OMEGA," D. Shvarts, V. A. Smalyuk, R. Betti, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, F. J. Marshall, P. B. Radha, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Simulations of the Effect of Energetic Electrons Produced from Two-Plasmon-Decay in the 1-D Hydrodynamics Code *LILAC*," J. A. Delettrez, V. N. Goncharov, P. B. Radha, C. Stoeckl, A. V. Maximov, T. C. Sangster, D. Shvarts, R. D. Petrasso, and J. A. Frenje, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Time-Dependent Spectral Shifts of Scattered Laser Light in Direct-Drive Inertial Confinement Fusion Implosion Experiments," D. H. Edgell, W. Seka, J. A. Delettrez, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, J. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, and R. E. Bahr, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Time-Resolved Scattered-Light Spectroscopy in Direct-Drive Implosion Experiments," D. H. Edgell, W. Seka, V. N. Goncharov, I. V. Igumenshchev, R. S. Craxton, J. A. Delettrez, J. Myatt, A. V. Maximov, and R. W. Short, presented at the 37th Anomalous Absorption Conference, Maui, HI, 27–31 August 2007.

"Magnetorheological Fluid Template for Basic Studies of Mechanical-Chemical Effects During Polishing," C. Miao, K. M. Bristol, A. E. Marino, S. N. Shafrir, J. E. DeGroote, and S. D. Jacobs, presented at SPIE Optics and Photonics 2007, San Diego, CA, 26-30 August 2007.

"MRF Spotting Technique for Studying Subsurface Damage in Deterministic Microground Polycrystalline Alumina," S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at SPIE Optics and Photonics 2007, San Diego, CA, 26–30 August 2007.

"The Role of Nanodiamonds in the Polishing Zone During Magnetorheological Finishing (MRF)," J. E. DeGroote, A. E. Marino, J. P. Wilson, A. L. Bishop, and S. D. Jacobs, presented at SPIE Optics and Photonics 2007, San Diego, CA, 26–30 August 2007.

"Using Time-Dependent Density Functional Theory (TDDFT) in the Design and Development of Near-IR Dopants for Liquid Crystal Device Applications," K. L. Marshall, R. Wang, M. Coan, A. G. Noto, K. Leskow, R. Pauszek, and A. Moore, presented at SPIE Optics and Photonics 2007, San Diego, CA, 26–30 August 2007.

"Vapor-Phase–Deposited Organosilane Coatings as 'Hardening' Agents for High-Peak-Power Laser Optics," K. L. Marshall, Z. Culakova, B. Ashe, C. Giacofei, A. L. Rigatti, T. J. Kessler, A. W. Schmid, J. B. Oliver, and A. Kozlov, presented at SPIE Optics and Photonics 2007, San Diego, CA, 26–30 August 2007.

"Polymer Cholesteric Liquid Crystal Flakes: A Novel Medium for Electro-Optical Particle-Based Technologies," T. Z. Kosc, A. Trajkovska-Petkoska, K. L. Marshall, S. D. Jacobs, K. Hasman, and C. Coon, presented at Particles 2007, Toronto, Canada, 18–21 August 2007.

"Polymer Cholesteric Liquid Crystal (PCLC) Flake/Fluid Host Electro-Optic Suspensions and Their Applications in Color Flexible Reflective Displays," K. L. Marshall, A. Trajkovska-Petkoska, K. Hasman, M. Leitch, G. Cox, T. Z. Kosc, and S. D. Jacobs, presented at the International Display Manufacturing Conference 2007, Taipei, Taiwan, 3–6 July 2007.

"Electro-Optics of Polymer Cholesteric Liquid Crystal Flakes: Applications Toward Electronic Paper," A. Trajkovska-Petkoska, T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at ECLC 2007, 9th European Conference on Liquid Crystals, Lisbon, Portugal, 2–6 July 2007.

"Environmental Challenges for the Nuclear Diagnostics on the NIF and LMJ," V. Yu. Glebov, T. C. Sangster, C. Stoeckl, S. Roberts, M. Cruz, C. Mileham, M. J. Moran, R. A. Lerche, J. M. Mack, H. Herrmann, C. S. Young, J. L. Bourgade, O. Landoas, J. Raimbourg, G. A. Chandler, and K. Miller, presented at the ITER-LMJ-NIF International Workshop, Cadarache, France, 27–29 June 2007.

"Tritium Management on OMEGA," W. T. Shmayda, presented at the ITER-LMJ-NIF International Workshop, Cadarache, France, 27–29 June 2007.

"Equation-of-State Measurements in $Ta_2O_5$ Aerogel," J. E. Miller, T. R. Boehly, D. D. Meyerhofer, and J. H. Eggert, presented at the 15th APS Topical Conference on Shock Compression of Condensed Matter, Fairmont Orchard, HI, 24–29 June 2007.

"Measurements of the Release of Alpha Quartz: A New Standard for Impedance-Matching Experiments," T. R. Boehly, J. E. Miller, D. D. Meyerhofer, J. H. Eggert, P. M. Celliers, D. G. Hicks, and G. W. Collins, presented at the 15th APS Topical Conference on Shock Compression of Condensed Matter, Fairmont Orchard, HI, 24–29 June 2007.

"Room-Temperature Single Photon Sources with Fluorescent Emitters in Liquid Crystal Hosts," S. G. Lukishova, L. J. Bissell, S. K. H. Wei, A. W. Schmid, Z. Shi, H. Shin, R. Knox, P. Freivald, R. W. Boyd, C. R. Stroud, Jr., S.-H. Chen, and K. L. Marshall, presented at the International Conference on Quantum Information, Rochester, NY, 13–15 June 2007.

"Contaminant Resistant Sol-Gel Coatings for High Peak Power Laser Applications," K. L. Marshall, V. Rapson, Y. Zhang, G. Mitchell, and A. L. Rigatti, presented at Optical Interference Coatings (OSA-OIC), Tucson, AZ, 3–8 June 2007.

"Doped Multilayer Polymer Cholesteric-Liquid-Crystal (PCLC) Flakes: A Novel Electro-Optical Medium for Highly Reflective Color Flexible Displays," K. L. Marshall, K. Hasman, M. Leitch, G. Cox, T. Z. Kosc, A. Trajkovska-Petkoska, and S. D. Jacobs, presented at the SID 2007 Symposium, Long Beach, CA, 20–25 May 2007.

"Material Removal Rate Model for Magnetorheological Finishing (MRF) of Optical Glasses with Nanodiamond MR Fluid," J. E. DeGroote, A. E. Marino, J. P. Wilson, A. L. Bishop, and S. D. Jacobs, presented at Optifab 2007, Rochester, NY, 14–17 May 2007.

"Micromechanical Contributions to Material Removal and Surface Finish," S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at Optifab 2007, Rochester, NY, 14–17 May 2007.

"Characterization of High-Frequency Surface Modulation Using the Transport-of-Intensity Equation," C. Dorrer and J. D. Zuegel, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Effectiveness of Radial Index Tailoring in Large-Mode-Area Fiber Lasers and Amplifiers," J. R. Marciante, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Gain Filtering for Single-Spatial-Mode Operation of Large-Mode-Area Fiber Amplifiers," J. R. Marciante, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Interferometric Tiling for Large-Aperture Gratings for Petawatt Laser Systems," J. Qiao, D. Canning, G. King, M. J. Guardalben, J. Price, A. Kalb, R. Jungquist, A. L. Rigatti, and J. H. Kelly, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Measurement of the Self-Phase-Modulation-Induced Bandwidth in a 30-kJ-Class Laser-Amplifier System," W. R. Donaldson, D. N. Maywar, and J. H. Kelly, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Pulse Shaping Using Binary Sequences Designed with Error Diffusion," C. Dorrer, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Spatially Shaping the Longitudinal Focal Distribution into a Horseshoe-Shaped Profile," P. Brijesh, T. J. Kessler, J. D. Zuegel, and D. D. Meyerhofer, presented at CLEO/QELS 2007, Baltimore, MD, 6–11 May 2007.

"Femtosecond Laser-Pumped Source of Entangled Photons for Quantum Cryptography Applications," D. Pan, W. R. Donaldson, and R. Sobolewski, presented at SPIE Europe: Optics and Optoelectronics, Prague, Czech Republic, 16–19 April 2007.

"Fiber Technologies for Terawatt Lasers," J. R. Marciante, presented at the Optical Fiber Communication Conference 2007, Anaheim, CA, 25–29 March 2007.

"Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, K. S. Anderson, R. Betti, T. R. Boehly, M. J. Bonino, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, L. D. Lund, D. Jacobs-Perkins, J. R. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. G. Noyes, P. B. Radha, T. C. Sangster, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, K. A. Thorp, M. D. Wittman, B. Yaakobi, C. D. Zhou, J. D. Zuegel, C. K. Li, R. D. Petrasso, J. A. Frenje, and F. H. Séguin, presented at the 7th Symposium on Current Trends in International Fusion Research: A Review, Washington, DC, 5–9 March 2007.

"High-Energy-Density Physics Research at NLUF with the OMEGA and OMEGA EP Lasers," J. M. Soures and D. D. Meyerhofer, presented at the 2007 Stewardship Science Academic Alliance Program Symposium, Washington, DC, 5–7 February 2007.

"Effectiveness of Radial Gain Tailoring in Large-Mode-Area Fiber Lasers and Amplifiers," J. R. Marciante, presented at ASSP 2007, Vancouver, Canada, 28–31 January 2007.

"Impact of Spatial-Hole Burning on Beam Quality in Large-Mode-Area Fibers," Z. Jiang and J. R. Marciante, presented at ASSP 2007, Vancouver, Canada, 28–31 January 2007.

"Intracavity-Pumped Raman Laser Action in a Mid-IR CW MgO:PPLN Optical Parametric Oscillator," A. V. Okishev and J. D. Zuegel, presented at ASSP 2007, Vancouver, Canada, 28–31 January 2007.

"Suppression of Optical Parametric Generation in the High-Efficient OPCPA System," I. A. Begishev, V. Bagnoud, C. Dorrer, and J. D. Zuegel, presented at ASSP 2007, Vancouver, Canada, 28–31 January 2007.

"Development of Polymer Cholesteric Liquid Crystal Flake Technology for Electro-Optic Devices and Particle Displays," T. Z. Kosc, K. L. Marshall, A. Trajkovska-Petkoska, C. J. Coon, K. Hasman, G. V. Babcock, R. Howe, M. Leitch, and S. D. Jacobs, presented at SPIE Photonics West, San Jose, CA, 20–25 January 2007 (invited).

"High-Speed Characterization for Optical Telecommunication Signals," C. Dorrer, presented at SPIE Photonics West, San Jose, CA, 20–25 January 2007 (invited).

## 2006

"2-D Simulations of OMEGA Fast-Ignition Cone Targets," K. S. Anderson, R. Betti, P. W. McKenty, P. B. Radha, and M. M. Marinak, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Diagnostics for Fast-Ignitor Experiments on OMEGA/OMEGA EP," C. Stoeckl, S.-W. Bahk, J. Bromage, V. Yu. Glebov, O. V. Gotchev, P. A. Jaanimagi, D. D. Meyerhofer, P. Nilson, T. C. Sangster, M. Storm, S. Sublett, W. Theobald, and J. D. Zuegel, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Fast-Ignition Fuel-Assembly Scaling Laws," C. Zhou and R. Betti, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Fast-Ignition Research at the Laboratory for Laser Energetics," W. Theobald, C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, J. A. Delettrez, R. Epstein, V. Yu. Glebov, J. H. Kelly, T. J. Kessler, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, D. N. Maywar, D. D. Meyerhofer, J. E. Miller, S. F. B. Morse, J. Myatt, P. B. Radha, A. L. Rigatti, T. C. Sangster, V. A. Smalyuk, L. J. Waxer, B. Yaakobi, J. C. Zhou, J. D. Zuegel, R. D. Petrasso, C. K. Li, C. A. Back, G. Hund, R. B. Stephens, S. P. Hatchett, M. H. Key, A. J. MacKinnon, H.-S. Park, P. K. Patel, K. L. Lancaster, and P. A. Norreys, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Gain Curves for Fast-Ignition Inertial Confinement Fusion," A. A. Solodov, R. Betti, J. A. Delettrez, and C. Zhou, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Hydrodynamic Simulations of Integrated Fast-Ignition Experiments Planned for the OMEGA/OMEGA EP Laser Systems," J. A. Delettrez, J. Myatt, C. Stoeckl, D. D. Meyerhofer, and M. G. Haines, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Laboratory Demonstration of $e^+e^-$ Pair-Plasma Production on OMEGA EP," J. Myatt, A. V. Maximov, and R. W. Short, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Optical Probing of Underdense Laser–Plasma Interactions Using the Vulcan Petawatt Laser," P. Nilson, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006.

"Preparations for Integrated Cryogenic Fast-Ignition Experiments on OMEGA/ OMEGA EP," D. D. Meyerhofer, R. Betti, V. N. Goncharov, D. H. Edgell, D. R. Harding, J. H. Kelly, T. J. Kessler, S. J. Loucks, L. D. Lund, R. L. McCrory, S. F. B. Morse, T. C. Sangster, W. Seka, C. Stoeckl, W. Theobald, L. J. Waxer, and J. D. Zuegel, presented at the 9th International Fast Ignition Workshop, Cambridge, MA, 3–5 November 2006 (invited).

"2-D Simulations of OMEGA Fast-Ignition Cone Targets," K. S. Anderson, R. Betti, P. W. McKenty, P. B. Radha, and M. M. Marinak, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Analysis of the Compressibility Experiments Performed on the OMEGA Laser System," S. Hu, V. N. Goncharov, V. A. Smalyuk, J. P. Knauer, and T. C. Sangster, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Bubble Acceleration in the Ablative Rayleigh–Taylor Instability," J. Sanz and R. Betti, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"The Channeling Effect in the Underdense Plasma," G. Li, C. Ren, V. N. Goncharov, and W. B. Mori, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Characterization of Fast-Electron Beam Propagation Through Solid-Density Matter by Optical-Transition Radiation," M. Storm, J. Myatt, and C. Stoeckl, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"A Compact, TIM-Based, Pulsed-Power System for Magnetized Target Experiments on OMEGA," O. V. Gotchev, M. D. Barbero, N. W. Jang, J. P. Knauer, and R. Betti, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Cryogenic DT and $D_2$ Targets for Inertial Confinement Fusion," T. C. Sangster, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, L. M. Elasky, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. Jacobs-Perkins, R. Janezic, R. L. Keck, J. P. Knauer, S. J. Loucks, L. D. Lund, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Seguin, J. D. Moody, J. A. Atherton, B. D. MacGowan, J. D. Kilkenny, T. P. Bernat, and D. S. Montgomery, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006 (invited tutorial).

"Developmental Status of a Liquid-Freon Bubble Chamber for Neutron Imaging," M. Ghilea, D. D. Meyerhofer, T. C. Sangster, D. J. Lonobile, A. Dillenbeck, R. A. Lerche, and L. Disdier, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Diagnosing Cryogenic $D_2$ and DT Implosions on OMEGA Using Charged-Particle Spectroscopy," J. A. Frenje, D. T. Casey, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, P. B. Radha, V. Yu. Glebov, D. D. Meyerhofer, and T. C. Sangster, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Diagnosing Cryogenic DT Implosions Using the Magnetic Recoil Spectrometer (MRS)," D. T. Casey, J. A. Frenje, C. K. Li, J. R. Rygg, F. H. Seguin, R. D. Petrasso, V. Yu. Glebov, B. Owens, D. D. Meyerhofer, T. C. Sangster, P. Song, S. W. Haan, S. P. Hatchett, R. A. Lerche, M. J. Moran, D. C. Wilson, R. Leeper, and R. E. Olson, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Direct- and Indirect-Drive Shock-Timing Experiments on the OMEGA Laser," T. R. Boehly, V. N. Goncharov, D. D. Meyerhofer, J. E. Miller, T. C. Sangster, V. A. Smalyuk, P. M. Celliers, G. W. Collins, D. Munro, and R. E. Olson, presented at the 48th Annual

Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Direct-Drive, Foam-Target ICF Implosions," J. P. Knauer, P. W. McKenty, K. S. Anderson, T. J. B. Collins, and V. N. Goncharov, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Effects of Resonant Absorption in Direct-Drive Experiments on OMEGA," I. V. Igumenshchev, V. N. Goncharov, V. A. Smalyuk, W. Seka, D. H. Edgell, T. R. Boehly, and J. A. Delettrez, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Effects of the Ion Viscosity on the Shock Yield and Hot-Spot Formation in ICF Targets," D. Li, I. V. Igumenshchev, and V. N. Goncharov, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Fast-Ignition Fuel-Assembly Scaling Laws: Theory and Experiments," C. Zhou and R. Betti, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Gain Curves for Fast-Ignition Inertial Confinement Fusion," A. A. Solodov, R. Betti, J. A. Delettrez, and C. Zhou, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"High-Areal-Density Fuel-Assembly Experiments for the Fast-Ignitor Concept," W. Theobald, C. Stoeckl, C. Zhou, R. Betti, S. Roberts, V. A. Smalyuk, V. Yu. Glebov, J. A. Delettrez, T. C. Sangster, D. D. Meyerhofer, C. K. Li, and R. D. Petrasso, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"High-Intensity Laser Interactions with Mass-Limited Solid Targets and Implications for Fast-Ignition Experiments on OMEGA EP," J. Myatt, W. Theobald, J. A. Delettrez, C. Stoeckl, M. Storm, T. C. Sangster, A. V. Maximov, and R. W. Short, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006 (invited).

"Hohlraum Energetics with Elliptical Phase Plates on OMEGA," S. P. Regan, D. D. Meyerhofer, T. C. Sangster, R. Epstein, L. J. Suter, O. S. Jones, N. B. Meezan, M. D. Rosen, S. Dixit, C. Sorce, O. L. Landen, J. Schein, and E. L. Dewald, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Hydrodynamic Simulations of Integrated Fast-Ignition Experiments Planned for the OMEGA/OMEGA EP Laser Systems," J. A. Delettrez, J. Myatt, C. Stoeckl, and D. D.

Meyerhofer, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Implosion Performance of Fully $\beta$-Layered Cryogenic-DT Targets on OMEGA," T. C. Sangster, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. D. Kilkenny, J. P. Knauer, S. J. Loucks, L. D. Lund, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, S. Skupsky, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006 (invited).

"Imprint Simulations of 1.5-MJ NIF Implosions Using a Refractive 3-D Laser Ray Trace with an Analytic SSD Model," J. A. Marozas, P. W. McKenty, P. B. Radha, and S. Skupsky, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Inferring Areal Density in OMEGA DT-Cryogenic Implosions," P. B. Radha, V. Yu. Glebov, V. N. Goncharov, D. D. Meyerhofer, T. C. Sangster, S. Skupsky, J. A. Frenje, and R. D. Petrasso, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Influence of Episodic Mass Ejection on Hydrodynamic Jet Evolution," S. Sublett, J. P. Knauer, D. D. Meyerhofer, I. V. Igumenshchev, T. J. B. Collins, and A. Frank, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Instabilities of Relativistic Electron Beams in Plasmas: Spatial Growth and Absolute Instability," R. W. Short and J. Myatt, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Investigation of Direct-Drive Shock Heating Using X-Ray Absorption Spectroscopy," H. Sawada, S. P. Regan, R. Epstein, D. Li, V. N. Goncharov, P. B. Radha, D. D. Meyerhofer, T. R. Boehly, V. A. Smalyuk, T. C. Sangster, B. Yaakobi, and R. Mancini, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"K-Shell Absorption Spectroscopy at Low Temperatures in Preheat Conditions," R. Epstein, H. Sawada, V. N. Goncharov, D. Li, P. B. Radha, and S. P. Regan, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Laser-Absorption, Mass Ablation Rate, and Shock Heating in Direct-Drive Inertial Confinement Fusion," S. P. Regan, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, D. Li, P. B. Radha, H. Sawada, W. Seka, T. R. Boehly, J. A. Delettrez, O. V. Gotchev, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D.

Meyerhofer, T. C. Sangster, D. Shvarts, S. Skupsky, V. A. Smalyuk, B. Yaakobi, and R. C. Mancini, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006 (invited).

"Laser–Plasma Coupling Near Critical Density in Direct-Drive ICF Plasmas," A. V. Maximov, J. Myatt, and R. W. Short, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Layering and Characterization of Cryogenic-DT Targets for OMEGA," D. H. Edgell, R. S. Craxton, L. M. Elasky, D. R. Harding, L. S. Iwan, R. L. Keck, L. D. Lund, S. J. Verbridge, A. Weaver, M. D. Wittman, and W. Seka, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Magnetic Reconnection and Plasma Dynamics in Two Beam Laser-Solid Interactions," P. Nilson, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Measurement of the Neutron Energy Spectrum in T-T Inertial Confinement Fusion," V. Yu. Glebov, T. C. Sangster, P. B. Radha, W. T. Shmayda, M. J. Bonino, D. R. Harding, D. C. Wilson, P. S. Ebey, A. Nobile, Jr., R. A. Lerche, and T. W. Phillips, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Measuring *E* and *B* Fields in Laser-Produced Plasmas Through Monoenergetic Proton Radiography," C. K. Li, F. H. Séguin, J. A. Frenje, J. R. Rygg, R. D. Petrasso, R. P. J. Town, P. A. Amendt, S. P. Hatchett, D. G. Hicks, O. L. Landen, V. A. Smalyuk, T. C. Sangster, and J. P. Knauer, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Monoenergetic Particle Backlighter for Radiography and Measuring *E* and *B* Fields and Plasma Areal Density," R. D. Petrasso, C. K. Li, F. H. Séguin, J. A. Frenje, J. R. Rygg, M. Manuel, V. A. Smalyuk, R. Betti, R. S. Craxton, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, J. Myatt, P. B. Radha, T. C. Sangster, W. Theobald, R. P. J. Town, P. A. Amendt, P. M. Celliers, S. P. Hatchett, D. G. Hicks, O. L. Landen, J. Cobble, N. M. Hoffman, and J. D. Kilkenny, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Nonlocal Ion-Heat Transport in ICF Implosions," S. Skupsky, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Numerical Investigation of Proposed OMEGA Cryogenic Implosions Using Adiabat-Shaping Techniques," P. W. McKenty, J. A. Marozas, V. N. Goncharov, K. S. Anderson, R. Betti, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, S. Skupsky, and R. L. McCrory,

presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"One-Megajoule, Wetted-Foam Target-Design Performance for the National Ignition Facility," T. J. B. Collins, J. A. Marozas, R. Betti, D. R. Harding, P. W. McKenty, P. B. Radha, S. Skupsky, V. N. Goncharov, J. P. Knauer, and R. L. McCrory, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006 (invited).

"Optimized Polar-Direct-Drive Experiments on OMEGA," F. J. Marshall, R. S. Craxton, M. J. Bonino, R. Epstein, V. Yu. Glebov, D. Jacobs-Perkins, J. P. Knauer, J. A. Marozas, P. W. McKenty, S. G. Noyes, P. B. Radha, W. Seka, S. Skupsky, and V. A. Smalyuk, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Positron–Electron, Pair-Plasma Production on OMEGA EP," J. Myatt, A. V. Maximov, and R. W. Short, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Shock Ignition of Thermonuclear Fuel with High Areal Density," R. Betti, K. S. Anderson, C. Zhou, L. J. Perkins, M. Tabak, P. Bedrossian, and K. N. LaFortune, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Spherical, Converging-Shock Breakout Measurements on OMEGA," J. M. Soures, T. R. Boehly, V. N. Goncharov, D. D. Meyerhofer, J. E. Miller, T. C. Sangster, W. Seka, and V. A. Smalyuk, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Status of the OMEGA EP High-Energy Petawatt Laser Facility," C. Stoeckl, J. Bromage, J. H. Kelly, T. J. Kessler, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, A. L. Rigatti, T. C. Sangster, W. Theobald, L. J. Waxer, and J. D. Zuegel, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Studies of Adiabat Shaping in Direct-Drive, Cryogenic-Target Implosions on OMEGA," D. D. Meyerhofer, T. C. Sangster, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. D. Kilkenny, J. P. Knauer, S. J. Loucks, L. D. Lund, F. J. Marshall, R. L. McCrory, P. W. McKenty, P. B. Radha, S. P. Regan, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, S. Skupsky, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Theory and Simulation of Laser-Driven Magnetic-Field Compression," N. W. Jang, R. Betti, J. P. Knauer, O. V. Gotchev, and D. D. Meyerhofer, presented at the 48th Annual

Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Thermal and Kinetic Equation-of-State Experiments Using Decaying Shock Waves," J. E. Miller, T. R. Boehly, A. Melchior, and D. D. Meyerhofer, P. M. Celliers, J. H. Eggert, and D. G. Hicks, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Thermal Transport Modeling in ICF Direct-Drive Experiments," V. N. Goncharov, V. A. Smalyuk, W. Seka, T. R. Boehly, R. L. McCrory, I. A. Igumenshchev, J. A. Delettrez, W. Manheimer, and D. Colombant, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Time-Dependent Absorption Measurements in Direct-Drive Spherical Implosions," W. Seka, V. N. Goncharov, J. A. Delettrez, D. H. Edgell, I. V. Igumenshchev, R. W. Short, A. V. Maximov, J. Myatt, and R. S. Craxton, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Time-Dependent Nuclear Measurements of Fuel-Shell Mix in ICF Implosions," J. R. Rygg, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, and V. N. Goncharov, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Using Target Shimming to Compensate for Asymmetric Drive in ICF Implosions," F. H. Séguin, C. K. Li, J. A. Frenje, J. R. Rygg, R. D. Petrasso, V. A. Smalyuk, R. S. Craxton, J. P. Knauer, F. J. Marshall, T. C. Sangster, S. Skupsky, A. Greenwood, and J. D. Kilkenny, presented at the 48th Annual Meeting of the APS Division of Plasma Physics, Philadelphia, PA, 30 October–3 November 2006.

"Dual-Frequency Ytterbium-Doped Fiber Laser," W. Guan and J. R. Marciante, presented at LEOS 2006, Montreal, Quebec, Canada, 29 October–2 November 2006.

"Manipulating Mechanics and Chemistry in Precision Optics Finishing," S. D. Jacobs, presented at the International 21st Century COE Symposium on Atomistic Fabrication Technology, Osaka, Japan, 19–20 October 2006.

"Overview of Inertial Fusion Research in the United States," T. C. Sangster, R. L. McCrory, V. N. Goncharov, D. R. Harding, S. J. Loucks, P. W. McKenty, D. D. Meyerhofer, S. Skupsky, B. A. Hammel, J. D. Lindl, E. Moses, J. Atherton, G. B. Logan, S. Yu, J. D. Kilkenny, A. Nikroo, H. Wilken, K. Matzen, R. Leeper, R. Olsen, J. Porter, C. Barnes, J. C. Fernandez, D. Wilson, J. D. Sethian, and S. Obenschain, presented at the 21st IAEA Fusion Energy Conference, Chendu, China, 16–21 October 2006.

"A Magnetorheological Polishing-Based Approach for Studying Magnetic/Nonmagnetic WC Hard Metals," S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at the ASPE 21st Annual Meeting, Monterey, CA, 15–20 October 2006.

"Adding Chemistry and Glass Composition Data into a Mechanical Material Removal Model for Magnetorheological Finishing (MRF)," J. E. DeGroote, J. P. Wilson, T. M. Pfunter, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 9–11 October 2006.

"Using Mechanics and Polishing Particle Properties to Model Material Removal for Magnetorheological Finishing (MRF) of Optical Glasses," J. E. DeGroote, A. E. Marino, A. L. Bishop, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 9–11 October 2006.

"Filamentation Analysis in Large-Area-Mode Fiber Lasers," L. Sun and J. R. Marciante, presented at Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, 8–12 October 2006.

"Gain Apodization in Highly Doped Fiber DFB Lasers," W. Guan and J. R. Marciante, presented at Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, 8–12 October 2006.

"Highly Stable, Long-Pulse, Diode-Pumped Nd:YLF Regenerative Amplifier," A. V. Okishev and J. D. Zuegel, presented at Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, 8–12 October 2006.

"Loss Measurements for Optimization of Large-Mode-Area, Helical-Core Fibers," Z. Jiang and J. R. Marciante, presented at Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, 8–12 October 2006.

"New and Improved Technologies for the OMEGA EP High-Energy Petawatt Laser," J. D. Zuegel, J. H. Kelly, L. J. Waxer, V. Bagnoud, I. A. Begishev, J. Bromage, C. Dorrer, B. E. Kruschwitz, T. J. Kessler, S. J. Loucks, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, J. B. Oliver, A. L. Rigatti, A. W. Schmid, C. Stoeckl, S. Dalton, L. Folnsbee, M. J. Guardalben, R. Jungquist, J. Puth, M. J. Shoup III, and D. Weiner, presented at Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, 8–12 October 2006 (invited).

"Single-Frequency, 2-cm, Yb-Doped Silica Fiber Laser," W. Guan and J. R. Marciante, presented at Frontiers in Optics 2006/Laser Science XXII, Rochester, NY, 8–12 October 2006.

"Research Using Chirped-Pulse–Amplification Lasers at the University of Rochester," D. D. Meyerhofer, presented at the OSA Annual Meeting and APS Laser Science Meeting, Rochester, NY, 8–12 October 2006 (invited).

"Cryogenic Target Positioning and Stability on OMEGA," L. D. Lund, D. Jacobs-Perkins, D. H. Edgell, R. Orsagh, J. Ulreich, and R. Early, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Developments in Layering OMEGA $D_2$ Cryogenic Targets," L. M. Elasky, S. J. Verbridge, A. Weaver, D. H. Edgell, and D. R. Harding, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Evaluating the Dependence of the Roughness of Polyimide Capsules and Processing Conditions," A. K. Knight and D. R. Harding, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Forming Cryogenic DT Ice Layers for OMEGA," D. R. Harding, L. M. Elasky, S. J. Verbridge, A. Weaver, and D. H. Edgell, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Hydrogen Isotope Exchange in Plastic Targets," W. T. Shmayda, M. J. Bonino, D. R. Harding, P. S. Ebey, and D. C. Wilson, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Isotopic Fractionation During Solidification and Sublimation of Hydrogen-Isotope Mixtures," M. D. Wittman and D. R. Harding, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Measuring and Optimizing the Dynamics of Spherical Cryogenic Targets on OMEGA," D. Turner, M. J. Bonino, J. Ulreich, and R. Orsagh, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Operational Challenges in Filling and Transferring Cryogenic DT Targets," R. Janezic, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Performance of the Cryogenic Test Facility Used to Simulate the Effect of Injecting an Inertial Fusion Energy Target into a Hot Target Chamber," S. Scarantino, M. Bobeica, and D. R. Harding, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Performance of the Tritium Removal Systems at LLE," R. Janezic, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Thermal Conductivity of Condensed $D_2$ and $D_2$ in RF Foam Using the 3-$\omega$ Method," R. Q. Gram and D. R. Harding, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Three-Dimensional Characterization of Spherical Cryogenic Targets Using Ray-Trace Analysis of Multiple Shadowgraph Views," D. H. Edgell, R. S. Craxton, L. M. Elasky, D. R. Harding, S. J. Verbridge, M. D. Wittman, and W. Seka, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Tritium Migration in MCTC's During DT Introduction," L. M. Elasky, A. Weaver, S. J. Verbridge, R. Janezic, and W. T. Shmayda, presented at the 17th Target Fabrication Meeting, San Diego, CA, 1–5 October 2006.

"Development of High-Fluence Beam Shapers," C. Dorrer, A. Consentino, and J. D. Zuegel, presented at ICUIL 2006, Cassis, France, 25–29 September 2006.

"Diffractive Optics for Compensation of Axial Chromatic Aberration in a High-Energy Short-Pulse Laser," T. J. Kessler, H. Huang, and D. Weiner, presented at ICUIL 2006, Cassis, France, 25–29 September 2006.

"Femtosecond Optimization of a Stretcher-Compressor Pair Using a Picosecond-Resolution Diagnostic," J. Bromage, L. J. Waxer, I. A. Begishev, C. Dorrer, J. H. Kelly, and J. D. Zuegel, presented at ICUIL 2006, Cassis, France, 25−29 September 2006.

"Holographic Exposure System for Patterning Large Gratings with High Wavefront Quality and Uniform Groove Profile," T. J. Kessler, J. Bunkenburg, C. Kellogg, F. Dewitt, J. Barone, L. S. Iwan, and K. McGowan, presented at ICUIL 2006, Cassis, France, 25–29 September 2006.

"Laser and Diagnostic Technologies Developed for Integrated Pulse-Width Control on OMEGA EP," J. D. Zuegel, I. A. Begishev, W. A. Bittle, R. Boni, J. Bromage, C. Dorrer, P. A. Jaanimagi, J. R. Marciante, and D. Vickery, presented at ICUIL 2006, Cassis, France, 25–29 September 2006.

"Modeling the Pulse-Shape Output of OMEGA EP," L. J. Waxer and D. Eimerl, presented at ICUIL 2006, Cassis, France, 25–29 September 2006.

"Single-Shot Pulse Characterization from 0.4 to 85 ps Using Electro-Optic Shearing Interferometry," J. Bromage, C. Dorrer, I. A. Begishev, N. G. Usechak, and J. D. Zuegel, presented at ICUIL 2006, Cassis, France, 25–29 September 2006.

"Evaluation of Cleaning Methods for Multilayer Diffraction Gratings," B. Ashe, K. L. Marshall, C. Giacofei, A. L. Rigatti, T. J. Kessler, A. W. Schmid, J. B. Oliver, J. Keck, and A. Kozlov, presented at the Boulder Damage Symposium XXXVIII, Boulder, CO, 25–27 September 2006.

"Using Gold Nanoparticles as Artificial Defects in Thin Films: What Have We Learned About Laser-Induced Damage Driven by Localized Absorbers?" by S. Papernov and A. W. Schmid, presented at the Boulder Damage Symposium XXXVIII, Boulder, CO, 25–27 September 2006 (invited).

"Diagnosing Shock-Heated and Compressed Matter in Direct-Drive Inertial Confinement Fusion (ICF)," S. P. Regan, H. Sawada, D. D. Meyerhofer, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, D. Li, P. B. Radha, J. A. Delettrez, T. R. Boehly, F. J. Marshall, T. C. Sangster, V. A. Smalyuk, B. Yaakobi, S. H. Glenzer, O. L. Landen, G. Gregori, and R.

C. Mancini, presented at the 12th International Workshop on Radiative Properties of Hot Dense Matter, Albufeira, Algarve, Portugal, 11–15 September 2006.

"Dark Counts in Nanostructured NbN Superconducting Single-Photon Detectors and Bridges," J. Kitaygorsky, I. Komissarov, A. Jukna, D. Pan, O. Minaeva, N. Kaurova, A. Divochiy, A. Korneev, M. Tarkhov, B. Voronov, I. Milostnaya, G. Gol'tsman, and R. Sobolewski, presented at the Applied Superconductivity Conference 2006, Seattle, WA, 27 August–1 September 2006.

"Mechanisms of Light Detection in Current-Biased Superconducting $MgB_2$ Microbridges," M. Khafizov, X. Li, Y. Cui, X. X. Xi, and R. Sobolewski, presented at the Applied Superconductivity Conference 2006, Seattle, WA, 27 August–1 September 2006.

"Middle-Infrared to Visible-Light Ultrafast Superconducting Single-Photon Detectors," G. N. Gol'tsman, O. Minaeva, A. Korneev, M. Tarkhov, I. Rubstova, A. Divochiy, I. Milostnaya, G. Chulkova, N. Kaurova, B. Voronov, D. Pan, J. Kitaygorsky, A. Cross, A. Pearlman, I. Komissarov, W. Slysz, M. Wegrzecki, P. Grabiec, and R. Sobolewski, presented at the Applied Superconductivity Conference 2006, Seattle, WA, 27 August–1 September 2006.

"Ultrafast Photoresponse Dynamics of Current-Biased Hg-Ba-Ca-Cu-O Superconducting Microbridges," X. Li, M. Khafizov, Š. Chromik, M. Valerianova, V. Štrbík, P. Odier, and R. Sobolewski, presented at the Applied Superconductivity Conference 2006, Seattle, WA, 27 August–1 September 2006.

"Computational Chemistry Methods for Predicting the Chiroptical Properties of Liquid Crystal Systems. II. Application to Chiral Azobenzenes," K. L. Marshall, A. G. Noto, G. Painter, and N. Tabirian, presented at Optics and Photonics 2006, San Diego, CA, 13–17 August 2006.

"Exploring Motion Reversal in Polymer Cholesteric-Liquid-Crystal Devices," T. Z. Kosc, C. J. Coon, G. V. Babcock, K. L. Marshall, A. Trajkovska-Petkoska, and S. D. Jacobs, presented at Optics and Photonics 2006, San Diego, CA, 13–17 August 2006.

"Feedback-Free, Single-Beam Pattern Formation by Nanosecond Pulses in Dye-Doped Liquid Crystals," N. N. Lepeshkin, S. G. Lukishova, R. W. Boyd, and K. L. Marshall, presented at Optics and Photonics 2006, San Diego, CA, 13–17 August 2006.

"Modeling Inertial Confinement Fusion Implosions Through Large-Scale Simulations," P. B. Radha, presented at the International Conference on Computational Science and Education, Rochester, NY, 7–10 August 2006.

"A Survey of the Use of Computer Technology at the Laboratory for Laser Energetics," J. A. Delettrez, presented at the International Conference on Computational Science and Education, Rochester, NY, 7–10 August 2006.

"Experimental Studies of Nonlinear, Directly-Driven, Rayleigh–Taylor Instability on OMEGA," V. A. Smalyuk, R. Betti, T. R. Boehly, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, D. Y. Li, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, S. Skupsky, J. M. Soures, C. Stoeckl, B. Yaakobi, O. Sadot, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 10th International Workshop on the Physics of Compressible Turbulent Mixing, Paris, France, 17–21 July 2006.

"Overview of the LLE Effort in Support of the U.S. National HED and ICF Programs," W. Seka, presented at JOWOG 37, Aldermaston, UK, 26–30 June 2006.

"High-Pressure and Temperature Equation-of-State Studies Using Laser-Driven Shocks," A. Melchior, T. R. Boehly, and J. E. Miller, presented at the Gordon Research Conference on High Pressure, Biddleford, ME, 25–30 June 2006.

"Progress in Hydrodynamics Theory and Experiments for Direct-Drive and Fast Ignition Inertial Confinement Fusion," R. Betti, K. Anderson, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. H. Kelly, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, D. N. Maywar, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. Myatt, P. B. Radha, S. P. Regan, C. Ren, T. C. Sangster, W. Seka, S. Skupsky, A. A. Solodov, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, C. Zhou, J. D. Zuegel, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 33rd European Physical Society Conference on Plasma Physics, Rome, Italy, 19–23 June 2006 (invited).

"Highlights of the History of the University of Rochester's Laboratory for Laser Energetics," R. L. McCrory, presented at the 29th ECLIM, Madrid, Spain, 11–16 June 2006.

"Present and Future Research at the Laboratory for Laser Energetics," R. L. McCrory, presented at the 29th ECLIM, Madrid, Spain, 11–16 June 2006.

"Filamentation of Fast-Ignition Transport in Plasmas: Spatial Growth and Absolute Modes," R. W. Short and J. Myatt, presented at the 36th Anomalous Absorption Conference, Jackson Hole, WY, 4–9 June 2006.

"Laboratory Astrophysics of $e^+e^-$ Pair-Plasma Production on OMEGA EP," J. Myatt, A. V. Maximov, and R. W. Short, presented at the 36th Anomalous Absorption Conference, Jackson Hole, WY, 4–9 June 2006.

"Laser Absorption in Spherical Target Experiments on OMEGA," W. Seka, V. N. Goncharov, J. A. Delettrez, R. W. Short, and R. S. Craxton, presented at the 36th Anomalous Absorption Conference, Jackson Hole, WY, 4–9 June 2006.

"Transport Near Critical Density Surface in Direct-Drive ICF Plasmas," A. V. Maximov, J. Myatt, and R. W. Short, presented at the 36th Anomalous Absorption Conference, Jackson Hole, WY, 4–9 June 2006.

"An Update on Polar-Direct-Drive Experiments on OMEGA," R. S. Craxton, F. J. Marshall, M. J. Bonino, R. Epstein, V. Yu. Glebov, J. A. Marozas, S. G. Noyes, and V. A. Smalyuk, presented at the 36th Anomalous Absorption Conference, Jackson Hole, WY, 4–9 June 2006.

"Using Experiments and Calculations to Analyze Gas Flow and Surface Reaction in the Vapor Deposition of a Copolymer," A. K. Knight, F.-Y. Tsai, and D. R. Harding, presented at the FLUENT 2006 CFD Summit, Monterey, CA, 22–24 May 2006.

"Design and Analysis of Beam Apodizers Using Error Diffusion," C. Dorrer and J. D. Zuegel, presented at CLEO/QELS 2006, Long Beach, CA, 21–26 May 2006.

"Deterministically Polarized, Room-Temperature Source of Single Photons Based on a Single-Emitter Fluorescence in Aligned Liquid Crystal Hosts," S. G. Lukishova, A. W. Schmid, R. S. Knox, P. Freivald, L. Bissell, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, presented at CLEO/QELS 2006, Long Beach, CA, 21–26 May 2006.

"High-Bandwidth, Pulse-Shape Control on a Frequency-Tripled Multiterawatt Solid-State Laser," W. R. Donaldson, D. N. Maywar, R. G. Roides, J. R. Marciante, J. H. Kelly, J. D. Zuegel, and R. L. Keck, presented at CLEO/QELS 2006, Long Beach, CA, 21–26 May 2006.

"Subpicosecond Jitter from a Precision Optical Triggering and Timing System Without Active Stabilization," J. R. Marciante, W. A. Bittle, and J. D. Zuegel, presented at CLEO/QELS 2006, Long Beach, CA, 21–26 May 2006.

"Incorporating Optical Glass Chemical Durability into a Glass Removal Model for Magnetorheological Finishing (MRF)," J. E. DeGroote, J. P. Wilson, T. M. Pfuntner, and S. D. Jacobs, presented at the Glass and Optical Materials Division Spring 2006 Meeting, Greenville, SC, 16–19 May 2006.

"The Role of Nanodiamond Abrasives in Optical Glass Removal with Magnetorheological Finishing (MRF)," J. E. DeGroote, A. E. Marino, J. P. Wilson, and S. D. Jacobs, presented at the Glass and Optical Materials Division Spring 2006 Meeting, Greenville, SC, 16–19 May 2006.

"Absolute Calibration of Kodak Biomax-MS Film to X Rays in the 1.5- to 8-keV Range," F. J. Marshall, J. P. Knauer, D. Anderson, and B. L. Schmitt, presented at the 16th Topical Conference on High-Temperature Diagnostics, Williamsburg, VA, 7–11 May 2006.

"Development of Nuclear Diagnostics for the National Ignition Facility," V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, S. Roberts, C. A. Barrera, J. R. Celeste, C. J. Cerjan, L. S. Dauffy, D. C. Eder, R. L. Griffith, S. W. Haan, B. A. Hammel, S. P. Hatchett, N. Izumi, J. R. Kimbrough, J. A. Koch, O. L. Landen, R. A. Lerche, B. J. MacGowan, M. J. Moran, E. W. Ng, T. W. Phillips, P. M. Song, R. Tommasini, B. K. Young, S. E. Caldwell, G. P. Grim, S. C. Evans, J. M. Mack, T. J. Sedillo, M. D. Wilke, D. C. Wilson, C. S. Young, D. Casey, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, J. L. Bourgade, L. Disdier, M. Houry, I. Lantuejoul, O. Landoas, G. A. Chandler, G. W. Cooper, R. J. Leeper, R. E. Olson, C. L. Ruiz, M. A. Sweeney, S. P. Padalino, C. Horsfield, and B. A. Davis, presented at the 16th Topical Conference on High-Temperature Diagnostics, Williamsburg, VA, 7–11 May 2006 (invited).

"High-Yield Bang Time Detector for the OMEGA Laser," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, C. Mileham, S. Roberts, and R. A. Lerche, presented at the 16th Topical Conference on High-Temperature Diagnostics, Williamsburg, VA, 7–11 May 2006.

"Operation of Target Diagnostics in a Petawatt Environment," C. Stoeckl, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, T. C. Sangster, M. Storm, S. Sublett, W. Theobald, M. H. Key, A. J. MacKinnon, P. K. Patel, D. Neely, and P. A. Norreys, presented at the 16th Topical Conference on High-Temperature Diagnostics, Williamsburg, VA, 7–11 May 2006 (invited).

"Response Model for Kodak Biomax-MS Film to X Rays," J. P. Knauer, F. J. Marshall, B. Yaakobi, D. Anderson, B. A. Schmitt, K. M. Chandler, S. A. Pikuz, T. A. Shelkovenko, M. D. Mitchell, and D. A. Hammer, presented at the 16th Topical Conference on High-Temperature Diagnostics, Williamsburg, VA, 7–11 May 2006.

"Optimizing the Vapor Deposition Method of Making Polyimide," A. K. Knight, F.-Y. Tsai, T. N. Blanton, D. R. Harding, and S. H. Chen, presented at the 12th Meeting of the Symposium on Polymers for Microelectronics, Wilmington, DE, 3–5 May 2006.

"Chemical Vapor Deposition of Carbon Nanotube-Reinforced Polymer Composites," C. Wu and D. R. Harding, presented at the 2006 MRS Spring Meeting, San Francisco, CA, 17–21 April 2006.

"Deterministically Polarized, Room-Temperature Source of Single Photons," S. G. Lukishova, A. W. Schmid, R. S. Knox, P. Freivald, L. Bissell, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, presented at the Workshop on Linear Optical Quantum Information Processing, Baton Rouge, LA, 10–12 April 2006.

"Dispersion Characteristics of Coplanar Waveguides at Subterahertz Frequencies," J. Zhang and T. Y. Hsiang, presented at the Progress in Electromagnetics Research Symposium, Cambridge, MA, 26–29 March 2006.

"Lasers in Hard Tissue Dentistry," W. Seka, P. Rechmann, J. D. B. Featherstone, and D. Fried, presented at the Academy of Laser Dentistry Annual Conference, Tucson, AZ, 15–18 March 2006.

"Double-Pulse Laser-Driven Jets on OMEGA," S. Sublett, J. P. Knauer, I. V. Igumenshchev, A. Frank, and D. D. Meyerhofer, presented at the 6th International Conference on High Energy Density Laboratory Astrophysics, Houston, TX, 11–14 March 2006.

"EXAFS Study of Shock Compression, Isentropic Compression, and Phase Transformation in Metals," B. Yaakobi, presented at the 6th International Conference on High Energy Density Laboratory Astrophysics, Houston, TX, 11–14 March 2006.

"Polymer Cholesteric Liquid Crystal (PCLC) Flake/Fluid Host Electro-Optical Suspensions: Progress Toward Flexible Reflective Displays," K. L. Marshall, A. Trajkovska-Petkoska, T. Z. Kosc, and S. D. Jacobs, presented at the USDC Fifth Annual Flexible Microelectronics and Displays Conference, Phoenix, AZ, 6–9 February 2006.

"Athermal, Diode-Pumped Nd:YLF Regenerative Amplifier," A. V. Okishev and J. D. Zuegel, presented at Advanced Solid-State Photonics 2006, Incline Village, NV, 29 January–1 February 2006.

"High-Performance OPCPA Laser System," J. D. Zuegel, V. Bagnoud, J. Bromage, and I. A. Begishev, presented at Advanced Solid-State Photonics 2006, Incline Village, NV, 29 January–1 February 2006.

"OPCPA Output Wavelength Tuning by Adjusting Time Delay Between Seed and Pump Pulses," I. A. Begishev, V. Bagnoud, M. J. Guardalben, and J. D. Zuegel, presented at Advanced Solid-State Photonics 2006, Incline Village, NV, 29 January–1 February 2006.

## 2005

"2-D Simulations of Adiabat-Shaped Targets," K. Anderson and R. Betti, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Calibration of Cryogenic Target Optical Shadowgraphic Characterization," D. H. Edgell, R. S. Craxton, L. M. Elasky, D. R. Harding, L. S. Iwan, R. L. Keck, L. D. Lund, S. J. Verbridge, M. J. Wittman, and W. Seka, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Characterization of a Fusion Product Source for ICF Diagnostic Development," M. J. Canavan, J. A. Frenje, R. Leiter, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, and S. Roberts, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"A Compact, Multiangle Electron Spectrometer for Ultra-Intense Laser–Plasma Interaction Experiments," O. V. Gotchev, D. D. Meyerhofer, and C. Stoeckl, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Design of the Shielding for the Magnetic Recoil Spectrometer (MRS) on OMEGA and the NIF Using the Neutron Transport Code TART2002," D. T. Casey, J. A. Frenje, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, S. W. Haan, S. P. Hatchett, P. A. Amendt, D. Eder, N. Izumi, O. L. Landen, R. A. Lerche, D. C. Wilson, R. Leeper, and R. E. Olson, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Direct-Drive, Low-Adiabat ICF Implosions," J. P. Knauer, K. Anderson, R. Betti, T. J. B. Collins, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Effect of Ponderomotive Terms on Heat Flux in Laser-Produced Plasmas," G Li and V. N. Goncharov, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Effects of Perturbed Picket Pulses in Adiabat-Shaped Direct-Drive Implosion Experiments," R. Epstein, T. J. B. Collins, J. A. Delettrez, V. N. Goncharov, J. P. Knauer, J. A. Marozas, P. W. McKenty, P. B. Radha, and V. A. Smalyuk, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Electron Distribution and Transport in a Laser Field in Direct-Drive ICF Plasmas," A. V. Maximov, J. Myatt, and R. W. Short, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Electron Transport Modeling in Inertial Confinement Fusion Experiments," V. N. Goncharov, G. Li, P. B. Radha, J. A. Delettrez, A. V. Maximov, and R. L. McCrory, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Energy Deposition, Penetration, and Blooming of Energetic Electrons in Fast Ignition and Preheat Scenarios," R. D. Petrasso and C. K. Li, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Equation-of-State Measurement in High Porosity $Ta_2O_5$ Foam," J. E. Miller, T. R. Boehly, D. D. Meyerhofer, and J. H. Eggert, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"First Results of a Linear MHD Stability Code for Axisymmetric Plasmas with Arbitrary Equilibrium Flow," L. Guazzotto, R. Betti, and J. P. Freidberg, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Forming Cryogenic Targets for Direct-Drive Experiments," D. R. Harding, D. D. Meyerhofer, S. J. Loucks, L. D. Lund, R. Janezic, L. M. Elasky, T. H. Hinterman, D. H. Edgell, W. Seka, M. D. Wittman, R. Q. Gram, D. Jacobs-Perkins, R. Early, T. Duffy, and M. J. Bonino, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005 (invited).

"Fuel Assembly for Fast-Ignition Inertial Confinement Fusion," R. Betti and C. Zhou, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"High-Density and High-$\rho R$-Fuel Assembly for Fast-Ignition Inertial Confinement Fusion," R. Betti and C. Zhou, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Hot Electron Generation During ICF Target Compression," C. Ren, G. Li, and V. N. Goncharov, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Hydrodynamic Simulations of Integrated Experiments Planned for the OMEGA/ OMEGA EP Laser Systems," J. A. Delettrez, J. Myatt, P. B. Radha, C. Stoeckl, and D. D. Meyerhofer, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Improved Signal-to-Background for Neutron Spectroscopy Through Coincidence Counting of Charged-Particle Tracks in CR-39 Detectors," S. Volkmer, F. H. Séguin, C. K. Li, J. R. Rygg, R. D. Petrasso, T. C. Sangster, V. Yu. Glebov, D. D. Meyerhofer, and C. Stoeckl, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Laser Driven Magnetic Field Compression," N. Jang, J. P. Knauer, R. Betti, and D. D. Meyerhofer, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"A Magnetic Recoil Spectrometer (MRS) for $\rho R$, Yield, and $T_i$ Measurements of Implosions on OMEGA and the NIF," J. A. Frenje, D. T. Casey, C. K. Li, J. R. Rygg, F. H. Séguin, S. Volkmer, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, S. W. Haan, S. P. Hatchett, P. A. Amendt, D. Eder, N. Izumi, O. L. Landen, R. A. Lerche, D. C. Wilson, R. Leeper, and O. L. Olson, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Measured Nuclear Burn Region Sizes and Symmetries for Direct-Drive ICF Implosions Versus Capsule and Drive Conditions," F. H. Séguin, J. DeCiantis, C. K. Li, J. A. Frenje, J. R. Rygg, R. D. Petrasso, S. P. Regan, J. A. Delettrez, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, S. Roberts, T. C. Sangster, V. A. Smalyuk, K. Mikaelian, H. S. Park, H. F. Robey, and R. Tipton, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24-28 October 2005.

"Measurements of Bubble Evolution in the Nonlinear Ablative Rayleigh–Taylor Instability," O. Sadot, V. A. Smalyuk, J. A. Delettrez, D. D. Meyerhofer, T. C. Sangster, D. Shvarts, R. Betti, and V. N. Goncharov, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Measurements of Plasma Filling Inside a Fast-Ignitor Cone Target Using Streaked Optical Pyrometry," C. Stoeckl, T. R. Boehly, J. A. Delettrez, J. Myatt, J. E. Miller, R. B. Stephens, W. Theobald, and T. C. Sangster, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Measurements of $T_e$ and $Z$ in Direct-Drive, Shock-Heated Planar Targets," H. Sawada, S. P. Regan, T. R. Boehly, I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, B. Yaakobi, T. C. Sangster, D. D. Meyerhofer, G. Gregori, D. G. Hicks, S. H. Glenzer, and O. L. Landen, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Monte Carlo Simulations for Studying Hot-Electron Transport in Nondegenerate Plasmas of Arbitrary $Z$," C. D. Chen, C. K. Li, J. A. Frenje, F. H. Séguin, R. D. Petrasso, J. Myatt, and J. A. Delettrez, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Neutron Imaging with Bubble Chambers," M. Ghilea, D. D. Meyerhofer, T. C. Sangster, D. Lonobile, A. Dillenbeck, R. A. Lerche, and L. Disdier, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Neutron Time-of-Flight Detectors Based on Vacuum Photodiodes for the NIF and LMJ," V. Yu. Glebov, T. C. Sangster, S. Roberts, M. J. Moran, and B. Davis, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Numerical Calculations of Laser-Generated MeV Electrons and Characteristic X-Ray Production in Copper Foil Targets," J. Myatt, J. A. Delettrez, W. Theobald, C. Stoeckl, M. Storm, A. V. Maximov, R. W. Short, R. P. J. Town, and L. A. Cottrill, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Numerical Study of Temporal Density Variation Effects on Nonlinear Perturbation Evolution in Classical Rayleigh–Taylor Instability," D. Li and V. N. Goncharov, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"OMEGA EP: Status and Use Planning," D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, S. F. B. Morse, J. H. Kelly, S. J. Loucks, and R. L. McCrory, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Optical Measurements at Preheated Polystyrene and Aluminum Layers," W. Theobald, J. E. Miller, T. R. Boehly, E. Vianello, I. V. Igumenshchev, V. N. Goncharov, A. V. Maximov, and T. C. Sangster, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Polar-Direct-Drive Experiments on OMEGA," F. J. Marshall, R. S. Craxton, M. J. Bonino, R. Epstein, V. Yu. Glebov, D. Jacobs-Perkins, J. P. Knauer, J. A. Marozas, P. W. McKenty, S. G. Noyes, P. B. Radha, W. Seka, S. Skupsky, V. A. Smalyuk, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Polar Direct Drive on the National Ignition Facility," S. Skupsky, R. S. Craxton, F. J. Marshall, R. Betti, T. J. B. Collins, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, J. S. Keller, J. A. Marozas, P. W. McKenty, P. B. Radha, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Polar-Direct-Drive Simulations and Experiments," J. A. Marozas, F. J. Marshall, R. S. Craxton, I. V. Igumenshchev, S. Skupsky, M. J. Bonino, T. J. B. Collins, R. Epstein, V. Yu. Glebov, D. Jacobs-Perkins, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. G. Noyes, P. B. Radha, T. C. Sangster, W. Seka, and V. A. Smalyuk, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005 (invited).

"Proton Radiography of Electromagnetic Fields Generated by Laser-Driven Plastic Foils," C. K. Li, F. H. Séguin, J. R. Rygg, J. A. Frenje, R. D. Petrasso, T. C. Sangster, V. A. Smalyuk, J. A. Delettrez, J. P. Knauer, S. P. Regan, J. M. Soures, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, C. Stoeckl, R. P. J. Town, A. J. MacKinnon, P. A. Amendt, N. Izumi, and O. L. Landen, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Radiation Transport in Saturn Targets Used for Polar Direct Drive," R. S. Craxton, F. J. Marshall, M. J. Bonino, S. G. Noyes, and V. A. Smalyuk, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Rayleigh–Taylor Growth Measurements of Three-Dimensional Modulations in a Nonlinear Regime," V. A. Smalyuk, O. Sadot, R. Betti, V. N. Goncharov, J. A. Delettrez, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, and D. Shvarts, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005 (invited).

"Recent Cryogenic Implosion Results on OMEGA," T. C. Sangster, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. P. Knauer, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Skupsky, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Reduction of the Effects of Nonuniform Laser Irradiation in Polar-Direct-Drive Implosions on the NIF," I. V. Igumenshchev, R. S. Craxton, P. W. McKenty, J. A. Marozas, and S. Skupsky, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Relativistic Electron Beam Microinstabilities in the Fast-Ignition Regime," R. W. Short and J. Myatt, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24-28 October 2005.

"Role of Hydrogen Fractionation in ICF Ignition Target Designs," P. W. McKenty and M. D. Wittman, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Shock Fast Ignition of Thermonuclear Fuel with High Areal Density," C. Zhou and R. Betti, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Shock-Timing Experiments Using Double-Pulse Laser Irradiation," T. R. Boehly, E. Vianello, J. E. Miller, R. S. Craxton, T. J. B. Collins, V. N. Goncharov, I. V. Igumenshchev, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and G. W. Collins, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005 (invited).

"Simulation of Weibel Electromagnetic Instability of Electron Beams in Plasma Using the Codes *LSP* and *OSIRIS*," A. Solodov, C. Ren, J. Myatt, R. Betti, and W. B. Mori, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Stability and Performance of a Direct-Drive, 1-MJ, Wetted-Foam Target Design," T. J. B. Collins, P. W. McKenty, P. B. Radha, V. N. Goncharov, and S. Skupsky, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Stimulated Brillouin Scattering in Plasmas Relevant to Direct-Drive Laser Fusion," W. Seka, H. Baldis, J. Myatt, A. V. Maximov, R. W. Short, R. S. Craxton, R. E. Bahr, and T. C. Sangster, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Stopping of Fast Electrons in Dense Hydrogenic Plasmas," A. Solodov, R. Betti, and J. Myatt, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Studies of Shock Convergence in ICF Implosions Using Nuclear Burn History Measurements," J. R. Rygg, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, and T. C. Sangster, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Target Performance of Direct-Drive, $D_2$-, $D^3He$-, and DT-Filled Plastic-Shell Implosions on OMEGA," S. P. Regan, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, V. A. Smalyuk, C. Stoeckl, J. R. Rygg, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Temporal Evolution of Directly Driven Hydrodynamic Jets Relevant to Astrophysics," S. Sublett, J. P. Knauer, I. V. Igumenshchev, A. Frank, and D. D. Meyerhofer, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Two-Dimensional Simulations of Low-Adiabat Plastic-Shell Implosions on OMEGA," P. B. Radha, R. Betti, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. W. McKenty, J. A. Marozas, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, and C. Stoeckl, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Update on the Rochester Optical Streak System," P. A. Jaanimagi, R. Boni, and D. D. Meyerhofer, presented at the 47th Annual Meeting of the APS Division of Plasma Physics, Denver, CO, 24–28 October 2005.

"Deterministically Polarized, Room Temperature Source of Single Photons," S. G. Lukishova, A. W. Schmid, R. Knox, P. Freivald, S. Schrauth, L. Bissell, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, Single-Photon Workshop 2005: Sources, Detectors, Applications and Measurement Methods, Teddington, UK, 24–6 October 2005.

"Feedback-Free Hexagon Pattern Formation with Liquid Crystals and Isotropic Liquids," S. G. Lukishova, N. Lepeshkin, R. W. Boyd, and K. L. Marshall, presented at the 11th International Topical Meeting on Optics of Liquid Crystals, Sand Key, FL, 2–7 October 2005.

"The LCPDI: A Compact and Robust Phase-Shifting Point-Diffraction Interferometer Based on Dye-Doped LC Technology," K. L. Marshall, K. Adelsberger, G. Myhre, and D. W. Griffin, presented at the 11th International Topical Meeting on Optics of Liquid Crystals, Sand Key, FL, 2–7 October 2005.

"Near-Field Optical Microscopy of Defects in Cholesteric Oligomeric Liquid Crystal Films," S. G. Lukishova and A. W. Schmid, presented at the 11th International Topical Meeting on Optics of Liquid Crystals, Sand Key, FL, 2–7 October 2005.

"Single-Photon Source for Quantum Information Based on Single Dye Molecule Fluorescence in Liquid Crystal Host," S. G. Lukishova, A. W. Schmid, C. M. Supranowitz, A. J. McNamara, P. Freivald, R. P. Knox, R. W. Boyd, and C. R. Stroud, presented at the 11th International Topical Meeting on Optics of Liquid Crystals, Sand Key, FL, 2–7 October 2005.

"Transition Metal Dithiolene Near-IR Dyes and Their Applications in Liquid Crystal Devices," K. L. Marshall, G. Painter, K. Lotito, A. G. Noto, and P. Chang, presented at the 11th International Topical Meeting on Optics of Liquid Crystals, Sand Key, FL, 2–7 October 2005 (invited).

"An Experimental Method for Measuring the Response of a Target to the Thermal Environment of the Fusion Reaction Chamber," M. Bobeica, D. R. Harding, and R. Q. Gram, presented at the IEEE/NPSS Symposium on Fusion Engineering, Knoxville, TN, 26–29 September 2005.

"Activation Operations Plan: OMEGA EP," S. F. B. Morse, presented at the 5th International Laser Operations Workshop, Livermore, CA, 20–22 September 2005.

"Fielding Targets to Support OMEGA Experiments," M. J. Bonino, presented at the 5th International Laser Operations Workshop, Livermore, CA, 20–22 September 2005.

"High-Energy Capability for the OMEGA Laser Facility," B. Kruschwitz, presented at the 5th International Laser Operations Workshop, Livermore, CA, 20–22 September 2005.

"Laboratory for Laser Energetics Overview," S. J. Loucks, presented at the 5th International Laser Operations Workshop, Livermore, CA, 20–22 September 2005.

"OMEGA Availability and Experimental Effectiveness Data Collection and Analysis to Improve System Performance," K. A. Thorp, presented at the 5th International Laser Operations Workshop, Livermore, CA, 20–22 September 2005.

"Shot Specification Input Flow, Operational Use, and Lead Time Requirements," G. Pien, presented at the 5th International Laser Operations Workshop, Livermore, CA, 20–22 September 2005.

"Polymer Cholesteric Liquid Crystal (PCLC) Flake/Fluid Host Suspensions: A Novel Electro-Optical Medium for Reflective Color Display Applications," K. L. Marshall, A. Trajkovska-Petkoska, T. Z. Kosc, and S. D. Jacobs, presented at Eurodisplay 2005, Edinburgh, Scotland, 19–22 September 2005.

"Damage Behavior of $HfO_2$ Monolayer Film Containing Gold Nanoparticles as Artificial Absorbing Defects," S. Papernov, A. W. Schmid, A. L. Rigatti, J. B. Oliver, and J. D. Howe, presented at the Boulder Damage Symposium XXXVII, Boulder, CO, 19–21 September 2005.

"Manufacture and Development of Multilayer Diffraction Gratings," J. Keck, J. B. Oliver, T. J. Kessler, H. Huang, J. Barone, J. Hettrick, A. L. Rigatti, T. Hoover, K. L. Marshall, A. W. Schmid, A. Kozlov, and T. Z. Kosc, presented at the Boulder Damage Symposium XXXVII, Boulder, CO, 19–21 September 2005.

"Thin-Film Design for Multilayer Diffraction Gratings," J. B. Oliver, T. J. Kessler, H. Huang, J. Keck, A. L. Rigatti, A. W. Schmid, A. Kozlov, and T. Z. Kosc, presented at the Boulder Damage Symposium XXXVII, Boulder, CO, 19–21 September 2005.

"Thin-Film Polarizers for the OMEGA EP Laser System," J. B. Oliver, A. L. Rigatti, J. D. Howe, J. Keck, J. Szczepanski, A. W. Schmid, S. Papernov, A. Kozlov, and T. Z. Kosc, presented at the Boulder Damage Symposium XXXVII, Boulder, CO, 19–21 September 2005.

"Nano-Spallation on Silica Film Surfaces by Acoustic Wave Emitted by Laser-Heated Artificial Absorbing Inclusions," S. D. Allen, S. I. Kudryashov, S. Papernov, and A. W. Schmid, presented at the 8th International Conference on Laser Ablation, Banff, Canada, 11–16 September 2005.

"Ablative Richtmyer–Meshkov Instability: Theory and Experimental Results," V. N. Goncharov, O. V. Gotchev, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, S. Skupsky, and C. Cherfils-Clerouin, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Characterization of Cryogenic Direct-Drive ICF Targets During Layering Studies and Just Prior to Shot Time," D. H. Edgell, W. Seka, R. S. Craxton, L. M. Elasky, D. R. Harding, R. L. Keck, L. D. Lund, and M. D. Wittman, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"High-Intensity Laser Diagnostics for OMEGA EP," J. Bromage, J. D. Zuegel, S.-W. Bahk, D. S. Vickery, L. J. Waxer, D. Irwin, V. Bagnoud, R. Boni, M. D. Moore, R. Jungquist, and C. Stoeckl, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"High-Performance OPCPA Laser System," J. D. Zuegel, V. Bagnoud, J. Bromage, I. A. Begishev, and J. Puth, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Large-Aperture Deformable Mirror Correction of Tiled-Grating Wavefront Error," B. E. Kruschwitz, R. Jungquist, J. Qiao, S. Abbey, S. E. Dean, D. N. Maywar, M. D. Moore, L. J. Waxer, and M. E. Wilson, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Low-Adiabat Implosions for Fast-Ignition Inertial Confinement Fusion," R. Betti and C. Zhou, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"OMEGA EP: High-Energy Petawatt Capability for the OMEGA Laser Facility," J. H. Kelly, L. J. Waxer, V. Bagnoud, I. A. Begishev, J. Bromage, B. E. Kruschwitz, T. J. Kessler, S. J. Loucks, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, J. B. Oliver, A. L. Rigatti, A. W. Schmid, C. Stoeckl, S. Dalton, L. Folnsbee, M. J. Guardalben, R. Jungquist, J. Puth, M. J. Shoup III, D. Weiner, and J. D. Zuegel, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Polar-Direct-Drive Experiments on OMEGA," F. J. Marshall, R. S. Craxton, M. J. Bonino, R. Epstein, V. Yu. Glebov, D. Jacobs-Perkins, J. P. Knauer, J. A. Marozas, P. W. McKenty, S. G. Noyes, P. B. Radha, W. Seka, S. Skupsky, and V. A. Smalyuk, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Polar Direct Drive—Ignition at 1 MJ," S. Skupsky, R. S. Craxton, F. J. Marshall, R. Betti, T. J. B. Collins, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, J. A. Marozas, P. W. McKenty, P. B. Radha, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Progress in Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, R. L. Keck, J. D. Kilkenny, J. P. Knauer, C. K. Li, J. R. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, presented at IFSA 2005, Biarritz, France, 4–9 September 2005.

"Ablative Richtmyer–Meshkov Instability: Theory and Experimental Results," V. N. Goncharov, presented at the 60th Scottish Universities Summer School in Physics, St. Andrews, Scotland UK, 14–27 August 2005.

"Direct-Drive Inertial Fusion: Basic Concepts and Ignition Target Designing," V. N. Goncharov, presented at the 60th Scottish Universities Summer School in Physics, St. Andrew, Scotland UK, 14–27 August 2005.

"Creating Extreme Material Properties with High-Energy Laser Systems," D. D. Meyerhofer, presented at the 14th APS Topical Conference on Shock Compression of Condensed Matter, Baltimore, MD, 31 July–5 August 2005.

"Direct-Density Measurements of Multi-Mbar Shock Waves for Absolute Equation-of-State Studies," T. R. Boehly, D. G. Hicks, J. H. Eggert, E. Vianello, J. E. Miller, J. F. Hansen, P. M. Celliers, G. W. Collins, and D. D. Meyerhofer, presented at the 14th APS Topical Conference on Shock Compression of Condensed Matter, Baltimore, MD, 31 July–5 August 2005.

"Laser-Driven Shock-Timing Experiments in Planar CH and Cryogenic Deuterium Targets," E. Vianello, T. R. Boehly, J. E. Miller, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, D. D. Meyerhofer, D. G. Hicks, and P. M. Celliers, presented at the 14th APS Topical Conference on Shock Compression of Condensed Matter, Baltimore, MD, 31 July–5 August 2005.

"Streaked Optical Pyrometer for Shock Wave and EOS Studies," J. E. Miller, T. R. Boehly, E. Vianello, W. J. Armstrong, C. Sorce, W. Theobald, D. D. Meyerhofer, D. G. Hicks, J. H. Eggert, and P. M. Celliers, presented at the 14th APS Topical Conference on Shock Compression of Condensed Matter, Baltimore, MD, 31 July–5 August 2005.

"Application of Computational Chemistry Methods to the Prediction of Chirality and Helical Twisting Power in Liquid Crystal Systems," A. G. Noto and K. L. Marshall, presented at the SPIE 50th Annual Meeting, San Diego, CA, 31 July–4 August 2005.

"Effects of Nanodiamond Abrasive Friability in Experimental MR Fluids with Phosphate Laser Glass LH-8 and Other Optical Glasses," J. E. DeGroote, A. E. Marino, J. P. Wilson, K. E. Spencer, and S. D. Jacobs, presented at the SPIE 50th Annual Meeting, San Diego, CA, 31 July–4 August 2005.

"Electrical Tuning of Silicon-Based 2-D Photonic Bandgap Structures," M. Haurylau, S. P. Anderson, K. L. Marshall, and P. M. Fauchet, presented at the SPIE 50th Annual Meeting, San Diego, CA, 31 July–4 August 2005.

"Novel Light-Emitting Organic Materials with Variable Electron and Hole Conductivities," A. C.-A. Chen, J. U. Wallace, L. Zeng, S. K.-H. Wei, and S. H. Chen, presented at the SPIE 50th Annual Meeting, San Diego, CA, 31 July–4 August 2005.

"A Second-Generation, Liquid Crystal Phase-Shifting Point-Diffraction Interferometer Employing Structured Substrates," K. L. Marshall, K. Adelsberger, B. Kolodzie, G. Mhyre, and D. W. Griffin, presented at the SPIE 50th Annual Meeting, San Diego, CA, 31 July–4 August 2005.

"UltraForm Finishing Process for Optical Materials," E. Fess, J. Schoen, M. Bechtold, D. Mohring, and C. Bouvier, presented at the SPIE 50th Annual Meeting, San Diego, CA, 31 July–4 August 2005.

"Deterministically Polarized Fluorescence from Single-Dye Molecules Aligned in Liquid Crystal Host," S. G. Lukishova, A. W. Schmid, R. Knox, P. Freivald, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, presented at IQEC/CLEO 2005, Tokyo, Japan, 11–15 July 2005.

"Direct-Drive Fuel-Assembly Experiments with Gas-Filled, Cone-in-Shell, Fast-Ignitor Targets on the OMEGA Laser," C. Stoeckl, T. R. Boehly, J. A. Delettrez, S. P. Hatchett, J. A. Frenje, V. Yu. Glebov, C. K. Li, J. E. Miller, R. D. Petrasso, F. H. Séguin, V. A. Smalyuk, R. B. Stephens, W. Theobald, B. Yaakobi, and T. C. Sangster, presented at the 8th International Workshop on Fast Ignition Targets, Tarragona, Spain, 29 June–1 July 2005.

"Hybrid-Implicit PIC Calculations of Laser-Generated MeV Electrons in Copper Targets," J. Myatt, J. A. Delettrez, W. Theobald, C. Stoeckl, A. V. Maximov, R. W. Short, M. Storm, T. C. Sangster, R. P. J. Town, and L. A. Cottrill, presented at the 8th International Workshop on Fast Ignition Targets, Tarragona, Spain, 29 June–1 July 2005.

"Hydrodynamic Simulations of Integrated Experiments Planned for the OMEGA/ OMEGA EP Laser Systems," J. A. Delettrez, J. Myatt, P. B. Radha, C. Stoeckl, S. Skupsky, and D. D. Meyerhofer, presented at the 8th International Workshop on Fast Ignition Targets, Tarragona, Spain, 29 June–1 July 2005.

"Ablative Richtmyer–Meshkov Instability as a Test of Thermal Conduction Models Used in Hydrosimulations of ICF Experiments," V. N. Goncharov, O. V. Gotchev, and C. Cherfils-Clérouin, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Diagnosing Shock-Heated, Direct-Drive Plastic Targets with Spectrally Resolved X-Ray Scattering," S. P. Regan, H. Sawada, T. R. Boehly, I. V. Igumenshchev, V. N. Goncharov, T. C. Sangster, D. D. Meyerhofer, B. Yaakobi, G. Gregori, D. G. Hicks, S. H. Glenzer, and O. L. Landen, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Electron Heat Transport in the Laser Field in Direct-Drive ICF Plasmas," A. V. Maximov, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"High-Performance Direct-Drive Implosions Using Cryogenic $D_2$ Fuel," T. C. Sangster, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. Jacobs-Perkins, J. P. Knauer, S. J. Loucks, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Micro-Instabilities of Relativistic Electron Beams in Plasmas," R. W. Short and J. Myatt, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Nonlinear Rayleigh–Taylor Growth Measurements on OMEGA," V. A. Smalyuk, O. Sadot, J. A. Delettrez, D. D. Meyerhofer, S. P. Regan, and T. C. Sangster, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Numerical Investigation of X-Ray Core Images from OMEGA Implosions Driven with Controlled Polar Illumination," R. Epstein, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, I. V. Igumenshchev, F. J. Marshall, J. A. Marozas, P. W. McKenty, P. B. Radha, S. Skupsky, and V. A. Smalyuk, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Polar-Direct-Drive Experiments on OMEGA Using Saturn Targets," R. S. Craxton, F. J. Marshall, M. J. Bonino, V. Yu. Glebov, J. P. Knauer, S. G. Noyes, W. Seka, and V. A. Smalyuk, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Various Forms of Stimulated Brillouin Scattering in Long-Scale-Length Plasmas Relevant to Direct-Drive Inertial Confinement Fusion," W. Seka, H. Baldis, A. V. Maximov, J. Myatt, R. W. Short, R. S. Craxton, R. E. Bahr, and T. C. Sangster, presented at the 35th Annual Anomalous Absorption Conference, Fajardo, Puerto Rico, 26 June–1 July 2005.

"Direct-Drive Shockwave-Timing Experiments in Planar Targets," W. Theobald, T. R. Boehly, E. Vianello, J. E. Miller, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and G. W. Collins, presented at the 32nd IEEE International Conference on Plasma Science, Monterey, CA, 18–23 June 2005 (invited).

"Progress with CVD Diamond Detectors for ICF Time-of-Flight Applications," V. Yu. Glebov, R. A. Lerche, C. Stoeckl, G. J. Schmid, T. C. Sangster, J. A. Koch, T. W. Phillips, C. Mileham, and S. Roberts, presented at the 32nd IEEE International Conference on Plasma Science, Monterey, CA, 18–23 June 2005.

"An Analytic Technique for Investigating Mode-Locked Lasers," N. G. Usechak and G. P. Agrawal, presented at CLEO 2005, Baltimore, MD, 22–27 May 2005.

"High-Gain, Polarization Preserving, Yb-Doped Fiber Amplifier for Low-Duty-Cycle Pulse Amplification," J. R. Marciante and J. D. Zuegel, presented at CLEO 2005, Baltimore, MD, 22–27 May 2005.

"Mode-Area Scaling of Helical-Core Dual-Clad Fiber Lasers and Amplifiers," Z. Jiang and J. R. Marciante, presented at CLEO 2005, Baltimore, MD, 22–27 May 2005.

"A Multiterawatt Laser Using a High-Contrast, Optical Parametric Chirped-Pulse Preamplifier," V. Bagnoud, J. Puth, I. Begishev, M. Guardalben, J. D. Zuegel, N. Forget, and C. Le Blanc, presented at CLEO 2005, Baltimore, MD, 22–27 May 2005.

"Pulse Switching and Stability in FM Mode-Locked Fiber Lasers," N. G. Usechak and G. P. Agrawal, presented at CLEO 2005, Baltimore, MD, 22–27 May 2005.

"Deterministically Polarized Fluorescence from Single Dye Molecules Aligned in Liquid Crystal Host," S. G. Lukishova, A. W. Schmid, R. Knox, P. Freivald, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, presented at QELS 2005, Baltimore, MD, 22–27 May 2005.

"All-Solid-State, Diode-Pumped, Multiharmonic Laser System for a Timing Fiducial," A. V. Okishev, R. G. Roides, I. A. Begishev, and J. D. Zuegel, presented at ICONO/ LAT 2005, St. Petersburg, Russia, 11–15 May 2005.

"Experimental Optimization of Diode-Pumped Yb:GdCOB Laser Performance for Broadband Amplification at 1053 nm," A. V. Okishev, K. P. Dolgaleva, and J. D. Zuegel, presented at ICONO/LAT 2005, St. Petersburg, Russia, 11–15 May 2005.

"OMEGA EP (Extended Performance): Adding High-Energy, Short-Pulse Capability to the OMEGA Facility," A. V. Okishev, ICONO/LAT 2005, St. Petersburg, Russia, 11–15 May 2005.

"Power Spectral Density Plots Inside MRF Spots Made with a Polishing Abrasive-Free MR Fluid," J. E. DeGroote, A. E. Marino, K. E. Spencer, and S. D. Jacobs, presented at Optifab 2005, Rochester, NY, 2–5 May 2005.

"Fabricating, Testing, and Fielding of Planar Cryogenic and X-Ray Scattering Targets," D. Turner, M. J. Bonino, S. G. Noyes, R. Q. Gram, K. J. Lintz, S. Scarantino, S. Verbridge, and D. R. Harding, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Fabrication of Polar-Direct-Drive Targets for the National Ignition Facility," M. J. Bonino, S. G. Noyes, F. J. Marshall, R. S. Craxton, D. W. Turner, and D. R. Harding, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Freezing Behavior of $H_2$–HD–$D_2$ Mixtures," M. D. Wittman and D. R. Harding, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Improvements and Present Limitations of $D_2$ Ice Layers for OMEGA Cryogenic Targets," L. M. Elasky, S. Verbridge, D. H. Edgell, and D. R. Harding, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Innovative Target Designs for Direct-Drive Ignition," D. D. Meyerhofer, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Modeling Polymer Vapor Deposition: PMDA-ODA Poly(amic Acid)," A. K. Knight and D. R. Harding, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Overview of Cryogenic Target Research at LLE," D. R. Harding, M. D. Wittman, L. M. Elasky, R. Q. Gram, M. J. Bonino, L. D. Lund, R. Janezic, S. Verbridge, S. Scarantino, and M. Bobeica, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Thermal Conductivity of Solid, Liquid, and Gaseous $D_2$ and Precise Thermometry Using an Embedded Pt Wire," R. Q. Gram and D. R. Harding, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Three-Dimensional Characterization of Cryogenic Target Ice Layers Using Shadowgraph Views," D. H. Edgell, R. S. Craxton, L. M. Elasky, D. R. Harding, L. S. Iwan, R. L. Keck, L. D. Lund, S. J. Verbridge, M. D. Wittman, A. Warrick, T. Brown, and W. Seka, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Tritium Operations at the Laboratory for Laser Energetics," W. T. Shmayda, S. J. Loucks, R. Janezic, T. W. Duffy, D. R. Harding, and L. D. Lund, presented at the 16th Target Fabrication Specialist's Meeting, Scottsdale, AZ, 1–5 May 2005.

"Progress in the Development of a Linear MHD Stability Code for Axisymmetric Plasmas with Arbitrary Equilibrium Flow," L. Guazzotto, R. Betti, and J. P. Freidberg, presented at the 2005 International Sherwood Fusion Theory Conference, Stateline, NV, 11–13 April 2005.

"Direct-Drive Inertial Fusion Research at the University of Rochester's Laboratory for Laser Energetics: A Review," R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, J. M. Soures, R. Betti, T. R. Boehly, M. J. Bonino, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, L. D. Lund, D. Jacobs-Perkins, J. R. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. G. Noyes, P. B. Radha, A. L. Rigatti, T. C. Sangster, W. Seka, V. A. Smalyuk, C. Stoeckl, K. A. Thorp, L. J. Waxer, M. D. Wittman, B. Yaakobi, J. D. Zuegel, K. A. Fletcher, C. Freeman, S. Padalino, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 6th Symposium on Current Trends in International Fusion Research: A Review, Washington, DC, 7–11 March 2005.

"Dynamic EXAFS Probing of Laser-Driven Shock Waves and Crystal Phase Transformations," D. D. Meyerhofer, B. Yaakobi, T. R. Boehly, T. J. B. Collins, H. Lorenzana, B. A. Remington, P. G. Allen, S. M. Pollaine, J. J. Rehr, and R. C. Albers, presented at JOWOG 37, Albuquerque, NM, 21–25 February 2005.

"Recent Results from EOS Experiments of Low-Density Foams and $D_2$," T. C. Sangster, T. R. Boehly, D. D. Meyerhofer, T. J. B. Collins, P. M. Celliers, G. W. Collins, J. H. Eggert, and D. G. Hicks, presented at JOWOG 37, Albuquerque, NM, 21–25 February 2005.

"Direct-Drive Inertial Confinement Fusion: Status and Future," P. B. Radha, presented at the AAAS Annual Meeting, Washington, DC, 17–21 February 2005.

"Polymer Cholesteric Liquid Crystal (PCLC) Flake/Fluid Host Electro-Optic Suspensions and Their Applications in Flexible Reflective Displays," K. L. Marshall, T. Z. Kosc, A. Trajkovska-Petkoska, E. Kimball, and S. D. Jacobs, presented at the 4th Annual Flexible Microelectronics and Displays Conference, Phoenix, AZ, 1–3 February 2005.

"Hydrodynamics of Inertial Confinement Fusion Implosions: What's Next?" by R. Betti, K. Anderson, J. P. Knauer, and V. N. Goncharov, presented at the 25th International Workshop on Physics of High Density in Matter, Hirschegg, Austria, 30 January–4 February 2005.

"The Dark Matter of Galactic Halos," H. L. Helfer, presented at the 205th Meeting of the American Astronomical Society, San Diego, CA, 9–13 January 2005.

**2004**

"Deterministically Polarized Single-Photon Source," S. G. Lukishova, A. W. Schmid, R. Knox, P. Freivald, R. W. Boyd, and C. R. Stroud, Jr., presented at Quantum Optics II, Cozumel, Mexico, 6–9 December 2004.

"Growth of the Open-Networked Carbon Nanostructures at Low Temperature by Microwave Plasma Electron Cyclotron Resonance Chemical Vapor Deposition," C. W. Wu and D. R. Harding, presented at the 2004 MRS Fall Meeting, Boston, MA, 29 November–3 December 2004.

"Absorption Measurements in Spherical Implosions on OMEGA," W. Seka, C. Stoeckl, V. N. Goncharov, R. E. Bahr, T. C. Sangster, R. S. Craxton, J. A. Delettrez, A. V. Maximov, J. Myatt, A. Simon, and R. W. Short, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Asymptotic Bubble Evolution in the Bell-Plesset and Ablative Rayleigh–Taylor Instabilities," C. Zhou, J. Sanz, and R. Betti, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Convective Versus Absolute Two-Plasmon Decay in Inhomogeneous Plasmas," R. W. Short, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Diagnosing Shock-Heated, Direct-Drive Plastic Targets with Spectrally Resolved X-Ray Scattering," H. Sawada, S. P. Regan, T. R. Boehly, I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, B. Yaakobi, T. C. Sangster, D. D. Meyerhofer, D. Gregori, D. G. Hicks, S. G. Glenzer, and O. L. Landen, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Direct-Drive, Cryogenic Target Implosions on OMEGA," F. J. Marshall, R. S. Craxton, J. A. Delettrez, D. H. Edgell, L. M. Elasky, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. Janezic, R. L. Keck, J. D. Kilkenny, J. P. Knauer, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, S. Skupsky, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004 (invited).

"Direct-Drive Shock-Timing Experiments Using Planar Targets," T. R. Boehly, E. Vianello, J. E. Miller, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, D. D. Meyerhofer, D. G. Hicks, and P. M. Celliers, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Dynamic EXAFS Probing of Laser-Driven Shock Waves and Crystal Phase Transformations," D. D. Meyerhofer, B. Yaakobi, T. R. Boehly, T. J. B. Collins, H. Lorenzana, B. A. Remington, P. G. Allen, S. M. Pollaine, J. J. Rehr, and R. C. Albers, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"The Effect of Electromagnetic Fields on Electron-Thermal Transport in Laser-Produced Plasmas," G. Li and V. N. Goncharov, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"The Effect of Incidence Angle on Laser-Driven Shock Strengths," E. Vianello, T. R. Boehly, R. S. Craxton, V. N. Goncharov, J. E. Miller, I. V. Igumenshchev, D. D. Meyerhofer, T. C. Sangster, D. G. Hicks, and P. M. Celliers, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Effects of the Low-$\ell$-Mode Irradiation Nonuniformities on the Performance of Direct-Drive Spherical Implosions," S. P. Regan, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, P. B.

Radha, T. C. Sangster, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Effects of the Ponderomotive Terms in the Thermal Transport on the Hydrodynamic Flow in Inertial Confinement Fusion Experiments," V. N. Goncharov, D. Li, and A. V. Maximov, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Effects of the Temporal Density Variation and Convergent Geometry on Nonlinear Bubble Evolution in Classical Rayleigh-Taylor Instability," D. Li and V. N. Goncharov, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Evolution of the Laser-Deposition Region in Polar-Direct-Drive Simulations on the National Ignition Facility (NIF)," J. A. Marozas, P. B. Radha, T. J. B. Collins, P. W. McKenty, and S. Skupsky, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"First Results from a Penumbral Imaging System Design Tool," M. C. Ghilea, D. D. Meyerhofer, T. C. Sangster, R. A. Lerche, and L. Disdier, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"High-Areal-Density Cryogenic $D_2$ Implosions on OMEGA," T. C. Sangster, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. P. Knauer, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Skupsky, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Hydrodynamic Jet Experiments on OMEGA," S. Sublett, J. P. Knauer, I. V. Igumenshchev, D. D. Meyerhofer, A. Frank, P. A. Keiter, R. F. Coker, B. H. Wilde, B. E. Blue, T. S. Perry, J. M. Foster, and P. A. Rosen, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Improved Target Stability Using Picket Pulses to Increase and Shape the Ablator Adiabat," J. P. Knauer, K. Anderson, R. Betti, T. J. B. Collins, V. N. Goncharov, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, V. A. Smalyuk, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004 (invited).

"Inference of Imprint at Onset of Deceleration Phase Using Shock-Burn Measurements," J. R. Rygg, F. H. Séguin, C. K. Li, J. A. Frenje, J. L. DeCiantis, R. D. Petrasso, J. A. Delettrez, V. N. Goncharov, P. B. Radha, V. Yu. Glebov, D. D. Meyerhofer, and T. C.

Sangster, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"K-Shell Spectroscopy Using a Single-Photon–Counting X-Ray CCD in Ultrafast Laser–Plasma Interaction Experiments," C. Stoeckl, W. Theobald, J. A. Delettrez, J. Myatt, S. P. Regan, H. Sawada, T. C. Sangster, M. H. Key, P. Patel, R. Snavely, R. Clarke, S. Karsch, and P. Norreys, 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Linear-Energy Transfer and Blooming of Directed Energetic Electrons in Dense Hydrogenic Plasmas," C. K. Li, C. Chen, J. A. Frenje, F. H. Séguin, R. D. Petrasso, J. A. Delettrez, R. Betti, D. D. Meyerhofer, J. Myatt, and S. Skupsky, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Magnetohydrodynamics Equilibria with Toroidal and Poloidal Flow," L. Guazzotto and R. Betti, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004 (invited).

"Mass Ablation Rate and Self-Emission Measurements in Planar Experiments," O. V. Gotchev, T. J. B. Collins, V. N. Goncharov, J. P. Knauer, D. Li, and D. D. Meyerhofer, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Measurements of Imprinting with Laser Beams at Various Angles of Incidence in Planar CH Foils," V. A. Smalyuk, V. N. Goncharov, T. R. Boehly, D. Li, J. A. Marozas, D. D. Meyerhofer, S. P. Regan, and T. C. Sangster, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Measurements of Time Evolution of Ion Temperature of $D^3He$ Implosions on OMEGA," J. A. Frenje, C. K. Li, F. H. Séguin, J. L. DeCiantis, J. R. Rygg, M. Falk, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, C. Stoeckl, F. J. Marshall, D. D. Meyerhofer, T. C. Sangster, V. A. Smalyuk, and J. M. Soures, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"A Modified Accelerator for ICF Diagnostic Development," M. Canavan, J. A. Frenje, C. K. Li, C. Chen, J. L. DeCiantis, J. R. Rygg, F. H. Séguin, and R. D. Petrasso, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Monte Carlo Simulations and Planned Experiments for Studying Hot-Electron Transport in $H_2$ and $D_2$," C. Chen, C. K. Li, J. A. Frenje, F. H. Séguin, R. D. Petrasso, T. C. Sangster, R. Betti, D. R. Harding, and D. D. Meyerhofer, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Multidimensional Analysis of Direct-Drive, Plastic-Shell Implosions on OMEGA," P. B. Radha, T. J. B. Collins, J. A. Delettrez, Y. Elbaz, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, D. Shvarts, S. Skupsky, Y. Srebro, and C. Stoeckl, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004 (invited).

"NIF Neutron Bang-Time Detector Development on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, C. Mileham, S. Roberts, and R. A. Lerche, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Nonlinear Ablative Rayleigh–Taylor Instability," R. Betti and J. Sanz, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Numerical Investigation of X-Ray Core Images from OMEGA Implosions Driven with Controlled Polar Illumination," R. Epstein, R. S. Craxton, J. A. Delettrez, F. J. Marshall, J. A. Marozas, P. W. McKenty, P. B. Radha, and V. A. Smalyuk, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Numerical Studies of MeV Electron Transport in Fast-Ignition Targets," J. Myatt, A. V. Maximov, R. W. Short, J. A. Delettrez, and C. Stoeckl, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"OMEGA Direct-Drive Cryogenic Deuterium Targets," D. R. Harding, M. D. Wittman, L. M. Elasky, S. Verbridge, L. D. Lund, D. Jacobs-Perkins, W. Seka, D. H. Edgell, and D. D. Meyerhofer, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Polar-Direct-Drive Experiments on OMEGA," J. M. Soures, F. J. Marshall, J. A. Delettrez, R. Epstein, R. Forties, V. Yu. Glebov, J. H. Kelly, T. J. Kessler, J. P. Knauer, P. W. McKenty, S. P. Regan, W. Seka, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Polar Direct Drive: Proof-of-Principle Experiments on OMEGA and Prospects for Ignition on the National Ignition Facility," R. S. Craxton, F. J. Marshall, M. J. Bonino, R. Epstein, P. W. McKenty, S. Skupsky, J. A. Delettrez, I. V. Igumenshchev, D. W. Jacobs-Perkins, J. P. Knauer, J. A. Marozas, P. B. Radha, and W. Seka, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004 (invited).

"Relationship of Asymmetries in Fusion Burn and $\rho R$ to Asymmetries in Laser Drive for ICF Implosions at OMEGA," F. H. Séguin, J. L. DeCiantis, J. A. Frenje, C. K. Li, J. R. Rygg, C. Chen, R. D. Petrasso, V. A. Smalyuk, F. J. Marshall, J. A. Delettrez, J. P. Knauer, P. W. McKenty, D. D. Meyerhofer, S. Roberts, T. C. Sangster, K. Mikaleian, and H. S. Park, 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"The Rochester Optical Streak System," P. A. Jaanimagi, R. Boni, R. L. Keck, W. R. Donaldson, and D. D. Meyerhofer, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"The Role of Viscosity in Simulations of Strong Shocks in Low-Density Foams," I. V. Igumenshchev, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Shadowgraphic Analysis Techniques for Cryogenic Ice-Layer Characterization at LLE," D. H. Edgell, W. Seka, R. S. Craxton, L. M. Elasky, D. R. Harding, R. L. Keck, M. Pandina, M. D. Wittman, and A. Warrick, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Shock Propagation in Wetted Foam," T. J. B. Collins, S. Skupsky, A. Frank, A. Cunningham, and A. Poludnenko, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Simulation of Enhanced Neutron Production for OMEGA EP Cryogenic Implosions," J. A. Delettrez, S. Skupsky, C. Stoeckl, J. Myatt, and P. B. Radha, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Simulations and Experiments on Adiabat Shaping by Relaxation," K. Anderson, R. Betti, J. P. Knauer, V. A. Smalyuk, and V. N. Goncharov, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Studying the Burn Region in ICF Implosions with Proton Emission Imaging," J. L. DeCiantis, F. H. Séguin, J. A. Frenje, C. Chen, C. K. Li, R. D. Petrasso, J. A. Delettrez, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, S. Roberts, T. C. Sangster, and C. Stoeckl, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Three-Dimensional Characterization of Ice Layers for Cryogenic Targets at LLE," D. H. Edgell, W. Seka, R. S. Craxton, L. M. Elasky, D. R. Harding, R. L. Keck, M. Pandina, M. D. Wittman, and A. Warrick, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Time-Resolved Measurement of Optical Self-Emission for Shock Wave and Equation of State Studies," J. E. Miller, W. J. Armstrong, T. R. Boehly, D. D. Meyerhofer, W. Theobald, E. Vianello, J. Eggert, D. G. Hicks, and C. Sorce, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Two-Plasmon-Decay Instability in Plasmas Irradiated by Incoherent Laser Beams," A. V. Maximov, J. Myatt, R. W. Short, W. Seka, and C. Stoeckl, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"X-Ray Line Emission Spectroscopy of 100-TW-Laser-Pulse–Generated Plasmas for Backlighter Development of Cryogenic Implosion Capsules," W. Theobald, C. Stoeckl, T. C. Sangster, J. Kuba, R. Snavely, M. H. Key, R. Heathcoate, D. Neely, and P. Norreys, presented at the 46th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 15–19 November 2004.

"Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics: Charting the Path to Thermonuclear Ignition," R. L. McCrory, S. P. Regan, S. J. Loucks, D. D. Meyerhofer, S. Skupsky, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, D. Edgell, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, R. L. Keck, J. D. Kilkenny, J. P. Knauer, C. K. Li, J. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, J. Myatt, S. Padalino, R. D. Petrasso, P. B. Radha, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, 20th IAEA Fusion Energy Conference, Vilamoura, Portugal, 1–6 November 2004.

"EXAFS Study of Laser-Shocked Metals," B. Yaakobi, presented at the 11th International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 1–5 November 2004.

"Target Injection Studies," D. R. Harding, M. Bobeica, and R. Q. Gram, presented at the 10th High Average Power Laser Meeting, Princeton, NJ, 27–28 October 2004.

"Photo-Thermo-Refractive Glass Resistance to Laser-Induced Damage Near One Micron," L. D. Merkle, M. Dubinskii, L. B. Glebov, L. N. Glebova, V. I. Smirnov, S. Papernov, and A. W. Schmid, presented at the 7th Annual Directed Energy Symposium, Rockville, MD, 18–21 October 2004.

"Dye-Doped, Liquid-Crystal, Room-Temperature, Single-Photon Source," S. G. Lukishova, A. W. Schmid, C. M. Supranowitz, A. J. McNamara, R. W. Boyd, and C. R. Stroud, Jr., presented at Frontiers in Optics, The 88th Annual Meeting-Laser Science XX, Rochester, NY, 10–14 October 2004.

"Dynamic EXAFS Probing of Laser-Driven Shock Waves and Crystal-Phase Transformations," B. Yaakobi, D. D. Meyerhofer, T. R. Boehly, J. J. Rehr, B. A. Remington, P. G. Allen, S. M. Pollaine, and R. C. Albers, presented at Frontiers in Optics, The 88th Annual Meeting-Laser Science XX, Rochester, NY, 10–14 October 2004 (invited).

"A Front End for Multipetawatt Lasers Based on a High-Energy, High-Average-Power Optical Parametric Chirped-Pulse Amplifier," V. Bagnoud, presented at Frontiers in Optics, The 88th Annual Meeting-Laser Science XX, Rochester, NY, 10–14 October 2004.

"Progress in Direct-Drive Inertial Confinement Fusion," D. D. Meyerhofer, presented at Frontiers in Optics, The 88th Annual Meeting-Laser Science XX, Rochester, NY, 10–14 October 2004 (invited).

"Polarization-Insensitive, High-Dispersion TIR Diffraction Gratings," J. R. Marciante, J. I. Hirsh, D. H. Raguin, and E. T. Prince, presented at Diffractive Optics and Micro-Optics, Rochester, NY, 10–13 October 2004.

"Chemical Durability of Phosphate Laser Glasses," A. E. Marino, K. Spencer, J. E. DeGroote, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Fracture Toughness of ULE, Zerodur, Astrosital, and Corning 9600," C. Bouvier, J. C. Lambropoulos, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Innovations in Optics Manufacturing," S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004 (invited).

"Loose Abrasive Lapping of Optical Glass with Different Lapping Plates and Its Interpretation," S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Polishing of Prepolished CVD ZnS Flats with Altered Magnetorheological (MR) Fluids," I. A. Kozhinova, H. J. Romanofsky, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Process Tuning of Silica Thin-Film Deposition," J. Keck, J. B. Oliver, V. Gruschow, J. Spaulding, and J. D. Howe, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Subsurface Damage in Single-Crystal Sapphire," F. H. Mrakovcic, J. A. Randi, J. C. Lambropoulos, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Surface Characterization of CVD ZnS Using Power Spectral Density," J. E. DeGroote, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, presented at Optical Fabrication and Testing, Rochester, NY, 10-13 October 2004.

"Thin-Film-Optics Design and Manufacturing Challenges for Large-Aperture, High-Peak-Power, Short-Pulse Lasers," J. B. Oliver, presented at Optical Fabrication and Testing, Rochester, NY, 10–13 October 2004.

"Design Strategies and Technology Demonstrations for the Tiled Grating Compressor," T. J. Kessler, J. Bunkenburg, H. Hu, C. Kellogg, L. S. Iwan, and W. Skulski, presented at the International Conference on Ultrahigh Intensity Lasers: Development, Science, and Emerging Applications, North Lake Tahoe, NV, 3–7 October 2004.

"High-Intensity Diagnostics for OMEGA EP," J. Bromage, J. D. Zuegel, D. Vickery, L. J. Waxer, D. Irwin, R. Boni, R. Jungquist, and C. Stoeckl, presented at the International Conference on Ultrahigh Intensity Lasers: Development, Science, and Emerging Applications, North Lake Tahoe, NV, 3–7 October 2004.

"OMEGA EP: A High-Energy Petawatt Laser at LLE," C. Stoeckl, presented at the International Conference on Ultrahigh Intensity Lasers: Development, Science, and Emerging Applications, North Lake Tahoe, NV, 3–7 October 2004.

"Performance of the OMEGA EP's Prototype-OPCPA Front End," J. D. Zuegel, V. Bagnoud, I. A. Begishev, M. J. Guardalben, and J. Puth, presented at the International Conference on Ultrahigh Intensity Lasers: Development, Science, and Emerging Applications, North Lake Tahoe, NV, 3–7 October 2004.

"A Short-Pulse, Laser-Damage Update on OMEGA EP," A. W. Schmid, T. Z. Kosc, A. Kozlov, A. L. Rigatti, and J. B. Oliver, presented at the International Conference on Ultrahigh Intensity Lasers: Development, Science, and Emerging Applications, North Lake Tahoe, NV, 3–7 October 2004.

"The Streak Camera Development Program at LLE," P. A. Jaanimagi, R. Boni, D. Butler, S. Ghosh, W. R. Donaldson, and R. L. Keck, presented at the 26th International Congress on High-Speed Photography and Photonics, Alexandria, VA, 20–24 September 2004.

"Cleaning Process Versus Laser-Damage Threshold of Coated Optical Components," A. L. Rigatti, presented at the Boulder Damage Symposium XXXVI, Boulder, CO, 20–22 September 2004.

"High-Spatial-Resolution Studies of UV-Laser-Damage Morphology in $SiO_2$ Thin Films with Artificial Defects," S. Papernov and A. W. Schmid, presented at the Boulder Damage Symposium XXXVI, Boulder, CO, 20–22 September 2004.

"Handling Cryogenic DT Targets at the Laboratory for Laser Energetics," W. T. Shmayda, D. R. Harding, L. D. Lund, R. Janezic, and T. W. Duffy, presented at the

7th International Conference on Tritium Science and Technology, Baden-Baden, Germany, 12–17 September 2004.

"Measuring Tritium Activity in Process Loops with Nude Baynard–Alpert Gauges," W. T. Shmayda and N. P. Kherani, presented at the 7th International Conference on Tritium Science and Technology, Baden-Baden, Germany, 12–17 September 2004.

"Metal Decontamination Using Low-Temperature Plasmas," W. T. Shmayda, presented at the 7th International Conference on Tritium Science and Technology, Baden-Baden, Germany, 12–17 September 2004.

"Nuclear Batteries Using Tritium and Thin Film Hydrogenated Amorphous Silicon," T. Kosteski, N. P. Kherani, W. T. Shmayda, S. Costea, and S. Zukotynski, presented at the 7th International Conference on Tritium Science and Technology, Baden-Baden, Germany, 12–17 September 2004.

"Recovering Tritium from a Variety of Tritiated Waste Streams," W. T. Shmayda and R. D. Gallagher, presented at the 7th International Conference on Tritium Science and Technology, Baden-Baden, Germany, 12–17 September 2004.

"The Use of Tritium in the Study of Defects in Amorphous Silicon," S. Costea, S. Pisana, N. P. Kherani, F. Gaspari, T. Kosteski, W. T. Shmayda, and S. Zukotynski, presented at the 7th International Conference on Tritium Science and Technology, Baden-Baden, Germany, 12–17 September 2004.

"Electro-Optical Behavior of Polymer Cholesteric Liquid Crystal Flake/Fluid Suspensions in a Microencapsulation Matrix," K. L. Marshall, E. Kimball, S. McNamara, T. Z. Kosc, A. Trajkovska-Petkoska, and S. D. Jacobs, presented at SPIE's 49th Annual Meeting, Denver, CO, 2–6 August 2004.

"International Innovations in Optical Finishing," S. D. Jacobs, presented at SPIE's 49th Annual Meeting, Denver, CO, 2–6 August 2004 (invited).

"Progress Toward Validation of the Direct-Drive Ignition Concept at OMEGA," T. C. Sangster, presented at the 31st European Physical Society Conference on Plasmas Physics, London, United Kingdom, 28 June–2 July 2004.

"NIF Neutron Bang Time Detector Prototype Test on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, S. Roberts, R. A. Lerche, and G. J. Schmid, presented at ICOPS 2004 31st IEEE International Conference on Plasma Science, Baltimore, MD, 28 June–1 July 2004.

"Optimization of Electron-Beam Deposition for Large-Aperture NIF Substrates in a Planetary Rotation System," J. B. Oliver and D. Talbot, presented at Optical Interference Coatings, Ninth Topical Meeting, Tucson, AZ, 27 June–2 July 2004.

"Laser Damage Resistance of Photo-Thermo-Refractive Glass Bragg Gratings," L. B. Glebov, L. N. Glebova, V. I. Smirnov, M. Dubinskii, L. D. Merkle, S. Papernov, and A. W. Schmid, presented at the Solid State and Diode Laser Technology Review, Albuquerque, NM, 8–10 June 2004.

"Electro-Optical Response of Shaped Polymer Cholesteric Liquid Crystal Flakes in an AC Field," A. Trajkovska-Petkoska, R. Varshneya, T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at the Great Lakes Photonics Symposium, Cleveland OH, 7–11 June 2004.

"Arbitrary Wave Profile Generation of a Laser Using a Digital Micromirror Device," J.-R. Park, W. R. Donaldson, K. Kearney, and R. Sobolewski, presented at CLEO 2004, San Francisco, CA, 16–21 May 2004.

"Multiterawatt Laser as a Front End for the OMEGA EP (Extended Performance) Laser Chain," V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Puth, and J. D. Zuegel, presented at CLEO 2004, San Francisco, CA, 16–21 May 2004.

"A Novel Discrete-Arbitrary-Picket-Pulse-Shaping System for the OMEGA Laser Fusion Facility," A. V. Okishev, J. R. Marciante, and J. D. Zuegel, presented at CLEO 2004, San Francisco, CA, 16–21 May 2004.

"Study of Metal–Semiconductor–Metal Ultraviolet Photodiodes in Picosecond Regime," J. Li, T. Y. Hsiang, and W. R. Donaldson, presented at CLEO 2004, San Francisco, CA, 16–21 May 2004.

"Wavefront Correction of Laser Rods Using Magnetorheological Finishing (MRF)," J. D. Zuegel, V. Bagnoud, T. Mooney, and P. Dumas, presented at CLEO 2004, San Francisco, CA, 16–21 May 2004.

"Deterministically Polarized, Room-Temperature Single-Photon Source: Single-Dye Molecule Fluorescence in Liquid Crystal Host," S. G. Lukishova, A. W. Schmid, C. M. Supranowitz, N. Lippa, A. J. McNamara, R. W. Boyd, and C. R. Stroud, Jr., presented at IQEC, San Francisco, CA, 16–21 May 2004.

"Effects of Nonuniform Illumination on Implosion Asymmetry in Direct-Drive Inertial Confinement Fusion," C. K. Li, F. H. Séguin, J. A. Frenje, R. D. Petrasso, J. A. Delettrez, P. W. McKenty, T. C. Sangster, R. L. Keck, J. M. Soures, F. J. Marshall, D. D. Meyerhofer, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, and W. Seka, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"An Empirical, Dynamic Mix Model for ICF Implosions," J. R. Rygg, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, D. D. Meyerhofer, T. C. Sangster, J. M. Soures, and C. Stoeckl, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"A High-Resolution Neutron Spectrometer for $\rho R_{\text{fuel}}$ and $T_i$ Measurements at OMEGA and the NIF," J. A. Frenje, C. K. Li, F. H. Séguin, J. DeCiantis, S. Kurebayashi, J. R. Rygg, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, J. M. Soures, S. P. Hatchett, S. W. Haan, M. Moran, G. J. Schmid, O. L. Landen, N. Izumi, and R. Stelter, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Hybrid Particle-in-Cell Simulations of MeV Electron Transport in Fast-Ignition Targets," J. Myatt, A. V. Maximov, R. W. Short, J. A. Delettrez, and C. Stoeckl, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Modeling of Two-Plasmon-Decay Instability in Direct-Drive ICF Experiments," A. V. Maximov, J. Myatt, R. W. Short, W. Seka, and C. Stoeckl, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Non-LTE Speed of Sound, Irreversibility, and Thermodynamic Consistency," R. Epstein and W. Fong, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"On the Convective Two-Plasmon-Decay Instability in Inhomogeneous Plasmas," R. W. Short, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Polar-Direct-Drive Experiments on OMEGA," R. S. Craxton, F. J. Marshall, S. Skupsky, J. A. Delettrez, R. Epstein, J. P. Knauer, P. W. McKenty, and W. Seka, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Scattered Light Measurements from Spherical Implosions on OMEGA," W. Seka, C. Stoeckl, R. Jiang, R. E. Bahr, T. C. Sangster, R. S. Craxton, J. A. Delettrez, A. V. Maximov, J. Myatt, and R. W. Short, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Simulation of Enhanced Neutron Production in OMEGA EP Cryogenic Implosions," J. A. Delettrez, J. Myatt, P. B. Radha, C. Stoeckl, and S. Skupsky, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Simulations and Experiments on Adiabat Shaping by Relaxation," K. Anderson, R. Betti, J. P. Knauer, and V. N. Goncharov, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Stopping and Scattering of Directed Energetic Electrons in High-Temperature Hydrogenic Plasmas," C. K. Li and R. D. Petrasso, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Studying the Burn Region in ICF Implosions with Proton Emission Imaging," J. DeCiantis, F. H. Séguin, J. R. Rygg, J. A. Frenje, S. Kurebayashi, C. K. Li, C. Chen, V. Berube, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, T. C. Sangster, and J. M. Soures, presented at the 34th Anomalous Absorption Conference, Gleneden Beach, OR, 2–7 May 2004.

"Fast Ignition Research at LLE: Progress and Plans," D. D. Meyerhofer, presented at the International Workshop on Fast Ignition and High Field Physics, Kyoto, Japan, 25–29 April 2004.

"Fast-Ignitor Cone Target Fuel Assembly Experiments," W. Theobald, C. Stoeckl, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, V. A. Smalyuk, R. B. Stephens, S. P. Hatchett, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, S. Fujioka, H. Shiraga, and K. A. Tanaka, presented at the International Workshop on Fast Ignition and High Field Physics, Kyoto, Japan, 25–29 April 2004.

"Two High Energy Beamlines at LLE: OMEGA EP," D. D. Meyerhofer, presented at the International Workshop on Fast Ignition and High Field Physics, Kyoto, Japan, 25–29 April 2004.

"Framed, 16-Image, Kirkpatrick–Baez Microscope for Laser–Plasma X-Ray Emission," F. J. Marshall, J. A. Oertel, and P. J. Walsh, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004.

"KB-PJX—A Streaked Imager Based on a Versatile X-Ray Microscope Coupled to a High-Current Streak Tube," O. V. Gotchev, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, and D. D. Meyerhofer, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004 (invited).

"Operation of a Single-Photon–Counting X-Ray Charge-Coupled Device Camera Spectrometer in a Petawatt Environment," C. Stoeckl, W. Theobald, T. C. Sangster, M. H. Key, P. Patel, B. B. Zhang, R. Clarke, S. Karsch, and P. Norreys, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004.

"Optical and X-Ray Streak Camera Gain Measurements," S. Ghosh, R. Boni, and P. A. Jaanimagi, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004.

"Prototypes of National Ignition Facility Neutron Time-of-Flight Detectors Tested on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, S. Roberts, G. J. Schmid, R. A. Lerche, and M. J. Moran, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004.

"Self-Consistent Determination of Rayleigh–Taylor Growth Rates and Ablation-Front Density in Planar Targets Accelerated by Laser Light," V. A. Smalyuk, V. N. Goncharov, T. R. Boehly, J. P. Knauer, D. D. Meyerhofer, and T. C. Sangster, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004.

"Temporal and Spectral Deconvolution of Data from Diamond, Photoconductive Devices," J. P. Knauer and N. C. Gindele, presented at the 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, 19–22 April 2004.

"Wavefront Correction of Laser Rods Using Magnetorheological Finishing (MRF)," J. D. Zuegel, presented at the QED Executive Symposium, Rochester, NY, 7 April 2004.

"Chemical Durability of Phosphate Laser Glasses," A. Marino, K. Spencer, J. DeGroote, and S. D. Jacobs, presented at Industrial Associates, Rochester, NY, 5 April 2004.

"Manufacture of Shaped Polymer Cholesteric Liquid Crystal Flakes Using Soft Lithography," A. Trajkovska-Petkoska, R. Varshneya, T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at the 12th Annual University of Rochester Symposium on Materials Research (SOMR), Rochester, NY, 3 April 2004.

"Direct-Drive Inertial Confinement Fusion Implosions on OMEGA," S. P. Regan, T. C. Sangster, D. D. Meyerhofer, K. Anderson, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, O. V. Gotchev, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, P. A. Jaanimagi, J. P. Knauer, S. J. Loucks, L. D. Lund, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, S. F. B. Morse, P. B. Radha, W. Seka, S. Skupsky, H. Sawada, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 5th International Conference on High Energy Density Laboratory Astrophysics, Tucson, AZ, 10–13 March 2004.

"Laser-Driven, Multishock Experiments in Planar Targets," T. R. Boehly, E. Vianello, J. E. Miller, R. S. Craxton, V. N. Goncharov, D. D. Meyerhofer, T. C. Sangster, D. G. Hicks, and P. M. Celliers, presented at the 5th International Conference on High Energy Density Laboratory Astrophysics, Tucson, AZ, 10–13 March 2004.

"High-Energy, 5-Hz-Repetition-Rate Laser Amplifier Using Wavefront-Corrected Nd:YLF Laser Rods," V. Bagnoud, J. Puth, and J. D. Zuegel, presented at the 2004 Advanced Solid-State Photonics, Santa Fe, NM, 1–4 February 2004.

"High-Energy Fiber Power Amplifier for Broadband Beam Smoothing with FM-Modulated Laser Pulses on OMEGA," J. D. Zuegel, J. R. Marciante, A. Galvanauskas, and C.-H. Liu, presented at the 2004 Advanced Solid-State Photonics, Santa Fe, NM, 1–4 February 2004.

"Parasitic Second-Harmonic Generation in Optical Parametric Chirped-Pulse Amplification," I. A. Begishev, V. Bagnoud, M. J. Guardalben, J. Puth, L. J. Waxer, and

J. D. Zuegel, presented at the 2004 Advanced Solid-State Photonics, Santa Fe, NM, 1–4 February 2004.

"Time-Resolved Imaging of a Spatially Modulated Laser Pulse," J.-R. Park, W. R. Donaldson, and R. Sobolewski, presented at LASE 2004, San Jose, CA, 24–29 January 2004.

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"Properties of Vapor-Deposited Polyimides," D. R. Harding, F.-Y. Tsai, E. L. Alfonso, S. H. Chen, A. K. Knight, and T. N. Blanton, presented at the Third International Symposium on Polyimides and Other High Temperature Polymers, Orlando, FL, 17–19 December 2003 (invited).

"Radiatively Inefficient Accretion Flows," I. V. Igumenshchev, presented at Stellar-Mass, Intermediate-Mass, and Supermassive Black Holes, Kyoto, Japan, 28–31 October 2003.

"Adiabat Shaping by Relaxation in Plastic and Cryogenic Shells for Experiments on the OMEGA Laser," K. Anderson, R. Betti, and J. P. Knauer, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Convective Growth of the Three-Wave Parametric Instability in a Nonuniform Plasma," A. Simon and R. W. Short, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Cryogenic Target Characterization at LLE," D. D. Meyerhofer, W. Seka, M. Alexander, R. S. Craxton, M. D. Wittman, M. Pandina, L. S. Iwan, L. M. Elasky, D. R. Harding, T. J. Kessler, R. L. Keck, L. D. Lund, D. Weiner, A. Warrick, T. G. Brown, and C. Cotton, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Designing Shock-Timing and Imprint Experiments for the Direct-Drive Inertial Confinement Fusion Implosions," V. N. Goncharov, T. R. Boehly, J. P. Knauer, V. A. Smalyuk, S. P. Regan, O. V. Gotchev, P. W. McKenty, S. Skupsky, P. B. Radha, and D. D. Meyerhofer, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Development of a Point Projection Backlighter for Laboratory Astrophysics Experiments on OMEGA," S. Sublett, J. P. Knauer, H. F. Robey, and B. Blue, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Development of a Test Bed for Astrophysical Jet Hydrodynamics," J. P. Knauer, S. Sublett, T. J. B. Collins, A. Frank, I. V. Igumenshchev, D. D. Meyerhofer, A. Poludnenko, J. M. Foster, P. A. Rosen, P. Keiter, B. H. Wilde, B. Blue, T. S. Perry, H. F. Robey, A. M. Khokhlov, and R. P. Drake, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Diagnosing Shell Mix in Direct-Drive with Time-Resolved X-Ray Spectroscopy," S. P. Regan, H. Sawada, V. A. Smalyuk, V. N. Goncharov, J. A. Delettrez, P. B. Radha, R. Epstein, F. J. Marshall, B. Yaakobi, D. D. Meyerhofer, T. C. Sangster, and D. A. Haynes, Jr., presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Direct Measurement of $\rho R$—Asymmetry Time Evolution in OMEGA Implosions," F. H. Séguin, J. R. Rygg, J. A. Frenje, C. K. Li, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, J. P. Knauer, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, V. A. Smalyuk, J. M. Soures, and S. P. Hatchett, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Direct-Drive Cryogenic Target Implosion Performance on OMEGA," P. W. McKenty, T. C. Sangster, M. Alexander, R. Betti, R. S. Craxton, J. A. Delettrez, L. Elasky, R. Epstein, A. Frank, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. Jin, J. P. Knauer, R. L. Keck, S. J. Loucks, L. D. Lund, R. L. McCrory, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, K. A. Thorp, M. Wozniak, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. A. Fletcher, S. Padalino, C. Freeman, N. Izumi, J. A. Koch, R. A. Lerche, M. J. Moran, T. W. Phillips, G. J. Schmid, and C. Sorce, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003 (invited).

"Direct-Drive ICF Implosions with Picket-Fence Pulse Shapes," J. P. Knauer, V. N. Goncharov, K. Anderson, R. Betti, V. Yu. Glebov, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Direct-Drive Implosions on OMEGA with Optimized Illumination Uniformity," F. J. Marshall, J. A. Delettrez, R. Epstein, R. Forties, V. Yu. Glebov, J. H. Kelly, T. J. Kessler, J. P. Knauer, P. W. McKenty, S. P. Regan, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"The Effects of Implosion Asymmetry on Shock Dynamics in OMEGA Direct-Drive Experiments," J. R. Rygg, F. H. Séguin, C. K. Li, J. A. Frenje, R. D. Petrasso, S. P. Hatchett, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, T. C. Sangster, and V. A. Smalyuk, presented at the

45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Effects of Low-Order Irradiation Nonuniformity on X-Ray Images of ICF Implosions Experiments on OMEGA," R. Epstein, F. J. Marshall, J. A. Delettrez, P. W. McKenty, P. B. Radha, and V. A. Smalyuk, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Experimental Investigation of Coronal Plasma Conditions in Direct-Drive ICF Using Time-Resolved X-Ray Spectroscopy," H. Sawada, S. P. Regan, V. N. Goncharov, J. P. Knauer, R. Epstein, R. S. Craxton, J. A. Delettrez, F. J. Marshall, B. Yaakobi, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, and W. Seka, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Experimental Investigation of the Two-Plasmon-Decay Instability at Oblique Incidence," W. Seka, C. Stoeckl, A. V. Maximov, R. S. Craxton, R. W. Short, S. P. Regan, H. Baldis, S. Depierreux, J. Myatt, and R. E. Bahr, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Experimental Results from Cryogenic $D_2$ Implosions on the OMEGA Laser," T. C. Sangster, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. Jacobs-Perkins, R. L. Keck, J. D. Kilkenny, J. P. Knauer, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, J. A. Marozas, F. J. Marshall, D. D. Meyerhofer, S. F. B. Morse, S. P. Regan, P. B. Radha, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, K. A. Thorp, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. A. Fletcher, S. Padalino, and C. Freeman, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Experimental Studies of Time-Dependent Mix in OMEGA Direct-Drive Implosions," R. D. Petrasso, J. R. Rygg, C. K. Li, F. H. Séguin, S. P. Hatchett, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, and J. M. Soures, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Extended X-Ray Absorption Fine Structure Measurements of Laser Shocks in Ti and V and Phase Transformation in Ti," B. Yaakobi, D. D. Meyerhofer, T. R. Boehly, J. J. Rehr, B. A. Remington, P. G. Allen, S. M. Pollaine, and R. C. Albers, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003 (invited).

"Fuel Assembly Experiments with Fast-Ignitor Cone Targets on OMEGA," C. Stoeckl, J. A. Delettrez, T. C. Sangster, R. B. Stephens, S. P. Hatchett, J. A. Frenje, S. Fujioka, H. Shiraga, and K. A. Tanaka, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"High-$\beta$ Tokamak Equilibria with Poloidal Flows Exceeding the Poloidal Alfvén Velocity," L. Guazzotto and R. Betti, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"High-Gain Direct-Drive Foam Target Designs for the National Ignition Facility," T. J. B. Collins and S. Skupsky, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Hydrodynamic Simulations of Polar Direct Drive on the NIF and LMJ Based on Three-Dimensional Ray Tracing," R. S. Craxton, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Inertial Confinement Fusion and High-Energy-Density Physics Research Opportunities at the National Laser Users' Facility (NLUF)," J. M. Soures, S. J. Loucks, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, T. C. Sangster, and C. Stoeckl, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Intense Electron-Beam Transport in Dense Cryogenic DT Fast-Ignition Fusion Targets," J. Myatt, A. V. Maximov, R. W. Short, J. A. Delettrez, and C. Stoeckl, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Investigation of the Use of Secondary Protons and Neutrons for Studying Fuel Areal Density in Imploded, $D_2$-Filled Capsules," S. Kurebayashi, F. H. Séguin, J. A. Frenje, C. K. Li, R. D. Petrasso, J. R. Rygg, B. E. Schwartz, J. DeCiantis, V. Yu. Glebov, J. A. Delettrez, T. C. Sangster, J. M. Soures, and S. P. Hatchett, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Laser-Induced Adiabat Shaping by Relaxation," R. Betti and K. Anderson, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"A Magnetic Recoil Spectrometer (MRS) for $\rho R_{\text{fuel}}$ and $T_i$ Measurements of Warm, Fizzle, and Ignited Implosions on OMEGA and NIF," J. A. Frenje, R. D. Petrasso, C. K. Li, F. H. Séguin, J. DeCiantis, S. Kurebayashi, J. R. Rygg, B. E. Schwartz, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, J. M. Soures, S. P. Hatchett, S. W. Haan, G. J. Schmid, O. L. Landen, N. Izumi, and D. Stelter, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Measuring Shock-Bang Timing and $\rho R$ Evolution of $D^3He$ Implosions at OMEGA," J. A. Frenje, C. K. Li, F. H. Séguin, J. Deciantis, S. Kurebayashi, J. R. Rygg, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, C. Stoeckl, F. J. Marshall, D. D. Meyerhofer, T. C. Sangster, V. A. Smalyuk, and J. M. Soures, presented at the 45th Annual Meeting

of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003 (invited).

"Modeling of the Two-Plasmon-Decay Instability Driven by Incoherent Laser Beams," A. V. Maximov, J. Myatt, R. W. Short, W. Seka, and C. Stoeckl, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"On the Role of Electron-Acoustic Waves in Two-Plasmon Decay and Stimulated Raman Scattering," R. W. Short, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Optimization of Low-Order Uniformity for Polar Direct Drive on the National Ignition Facility (NIF)," J. A. Marozas, P. B. Radha, T. J. B. Collins, P. W. McKenty, and S. Skupsky, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Polar Direct Drive on the National Ignition Facility," S. Skupsky, J. A. Marozas, R. S. Craxton, R. Betti, T. J. B. Collins, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, P. B. Radha, T. R. Boehly, J. P. Knauer, F. J. Marshall, D. R. Harding, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003 (invited).

"Proton Temporal Diagnostic for ICF Experiments on OMEGA," V. Yu. Glebov, C. Stoeckl, S. Roberts, T. C. Sangster, J. A. Frenje, R. D. Petrasso, R. A. Lerche, and R. L. Griffith, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Quartz Equation-of-State (EOS) Measurements at the OMEGA Laser Facility," T. R. Boehly, D. G. Hicks, T. J. B. Collins, G. W. Collins, P. M. Celliers, E. Vianello, D. D. Meyerhofer, R. C. Cauble, W. Unites, D. Jacobs-Perkins, R. Earley, M. J. Bonino, W. J. Armstrong, S. G. Noyes, D. Turner, D. Guy, S. Scarantino, T. Lewis, F. A. Rister, and L. D. Lund, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Secondary Neutron Energy Spectra Measurements with the 1020 Array on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, P. B. Radha, S. Roberts, S. Mott, S. Padalino, L. Baumgart, K. Voltz, H. M. Jiang, S. P. Hatchett, M. J. Moran, S. Kurebayashi, F. H. Séguin, and R. D. Petrasso, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Simulation of Enhanced Neutron Production in OMEGA EP Cryogenic Implosions," J. A. Delettrez, P. B. Radha, C. Stoeckl, S. Skupsky, and D. D. Meyerhofer, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Streaked Imaging of Ablative Richtmyer–Meshkov Growth in ICF Targets on OMEGA," O. V. Gotchev, V. N. Goncharov, P. A. Jaanimagi, J. P. Knauer, and D. D. Meyerhofer, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Studying the Burn Region in ICF Implosions with Proton-Emission Imaging," J. DeCiantis, B. E. Schwartz, J. A. Frenje, F. H. Séguin, S. Kurebayashi, C. K. Li, R. D. Petrasso, J. A. Delettrez, J. M. Soures, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, T. C. Sangster, and S. P. Hatchett, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Three-Halves-Harmonic Generation in Femtosecond-Laser-Produced, Solid-Density Plasmas," W. Theobald, L. Veisz, and R. Sauerbrey, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Timing of Multiple Shocks in Planar Direct-Drive Laser-Driven Targets," E. Vianello, T. R. Boehly, R. S. Craxton, V. N. Goncharov, J. P. Knauer, D. D. Meyerhofer, J. E. Miller, T. C. Sangster, D. G. Hicks, and P. M. Celliers, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"The Utility of Knock-On *D*, *T*, and *P* for Diagnosing NIF Implosions," M. Canavan, J. R. Rygg, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, S. W. Haan, S. P. Hatchett, J. A. Koch, O. L. Landen, V. Yu. Glebov, D. D. Meyerhofer, and T. C. Sangster, presented at the 45th Annual Meeting of the APS Division of Plasma Physics, Albuquerque, NM, 27–31 October 2003.

"Spectroscopy of Broadband Harmonic Generation," W. R. Donaldson, J. A. Marozas, R. S. Craxton, D. Jacobs-Perkins, and M. Millecchia, presented at LEOS 2003, Tucson, AZ, 26–30 October 2003.

"Optics Manufacturing Research Projects by Undergraduates Who Happen to be Women," S. D. Jacobs, L. L. Gregg, E. M. Fess, and J. M. Schoen, presented at Education and Training in Optics and Photonics, Tucson, AZ, 6–8 October 2003.

"OSA Rochester Section Optics Suitcase: A Forty-Minute Middle School Outreach Program for the Cost of a Postage Stamp," S. D. Jacobs and L. L. Gregg, presented at Education and Training in Optics and Photonics, Tucson, AZ, 6–8 October 2003.

"Efficient Room Temperature Single-Photon Source: Single Dye Molecule Fluorescence in Photonic-Band-Gap Cholesteric Liquid Crystal Host," S. G. Lukishova, A. W. Schmid, A. J. McNamara, R. W. Boyd, and C. R. Stroud, presented at the 87th OSA Annual Meeting, Tucson, AZ, 5–9 October 2003.

"A New Class of High-Efficiency, High-Dispersion Diffraction Gratings Based on Total Internal Reflection," J. R. Marciante and D. H. Raguin, presented at the 87th OSA Annual Meeting, Tucson, AZ, 5–9 October 2003.

"Optical Measurement of Depth and Duty Cycle for Binary Diffraction Gratings with Sub-$\lambda$ Features," J. R. Marciante, N. O. Farmiga, H. T. Ta, J. I. Hirsh, and M. S. Evans, presented at the 87th OSA Annual Meeting, Tucson, AZ, 5–9 October 2003.

"Phase Effects of Secondary Reflections on the Performance of Reflective Liquid-Crystal Cells," J. R. Marciante, N. O. Farmiga, J. P. Kondis, and J. R. Frederick, presented at the 87th OSA Annual Meeting, Tucson, AZ, 5–9 October 2003.

"Polarization-Insensitive High-Dispersion TIR Diffraction Gratings," J. R. Marciante, D. H. Raguin, J. I. Hirsh, and E. T. Prince, presented at the 87th OSA Annual Meeting, Tucson, AZ, 5–9 October 2003.

"Polymer Cholesteric Liquid Crystal Flake Particle Displays Utilizing Maxwell–Wagner Polarization Effects for Switching," T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at the 23rd International Display Research Conference, Phoenix, AZ, 15–18 September 2003.

"Advanced Direct-Drive Target Designs for the NIF," S. Skupsky, R. Betti, T. J. B. Collins, V. N. Goncharov, J. A. Marozas, P. W. McKenty, P. B. Radha, T. R. Boehly, J. P. Knauer, F. J. Marshall, D. R. Harding, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Bridging the Gap: Ignition Diagnostics for the National Ignition Facility," T. C. Sangster, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"The Coherent Addition of Gratings for Pulse Compression in High-Energy Laser Systems," T. J. Kessler, J. Bunkenburg, H. Huang, A. Kozlov, C. Kelly, and D. D. Meyerhofer, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Deuterium Equation-of-State Measurements Using Laser-Driven Shocks," T. R. Boehly, T. J. B. Collins, E. Vianello, D. Jacobs-Perkins, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, G. W. Collins, S. J. Moon, M. E. Foord, J. H. Eggert, and R. Cauble, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Direct-Drive Cryogenic Target Implosion Performance on OMEGA," P. W. McKenty, T. C. Sangster, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, J. P. Knauer, R. L. Keck, S. J. Loucks, L. D. Lund, R. L. McCrory, F. J. Marshall, D. D. Meyerhofer, S. F. B. Morse, S. P. Regan, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, V. A.

Smalyuk, C. Sorce, J. M. Soures, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. A. Fletcher, S. Padalino, C. Freeman, N. Izumi, J. A. Koch, R. A. Lerche, M. J. Moran, T. W. Phillips, and G. J. Schmid, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Formation of Deuterium-Ice Layers in OMEGA Targets," D. R. Harding, E. L. Alfonso, L. M. Elasky, L. S. Iwan, J. Sailer, W. Seka, A. Warrick, and M. D. Wittman, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"High-Gain, Direct-Drive Foam Target Designs for the National Ignition Facility," T. J. B. Collins, S. Skupsky, V. N. Goncharov, R. Betti, P. W. McKenty, P. B. Radha, R. Epstein, A. Poludnenko, A. Frank, and S. Mitran, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Optical Parametric Chirped-Pulse Amplifier as the Front End for the OMEGA EP Laser Chain," V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Keegan, J. Puth, L. J. Waxer, and J. D. Zuegel, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Progress in Inertial Confinement Fusion in the United States," R. L. McCrory, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003 (keynote speaker).

"$\rho R$ Asymmetry in the Spherical Implosions of Inertial Confinement Fusion," C. K. Li, F. H. Séguin, J. A. Frenje, R. D. Petrasso, J. A. Delettrez, R. L. Keck, J. M. Soures, P. W. McKenty, F. J. Marshall, V. N. Goncharov, J. P. Knauer, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, and W. Seka, presented at the Third International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, 7–12 September 2003.

"Polymer Cholesteric Liquid Crystal Flakes for Particle Displays: Impact of Flake Geometry and Materials Processing on Field-Induced Motion in a Fluid Host," T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at the XII International Materials Research Conference, Cancun, Mexico, 17–21 August 2003 (invited).

"Breaking the 100-fs Barrier with a Streak Camera," P. A. Jaanimagi, presented at the SPIE 48th Annual Meeting, San Diego, CA, 3–8 August 2003.

"Grain Decoration in Aluminum Oxynitride (ALON) from Polishing on Bound Abrasive Laps," L. L. Gregg, A. E. Marino, J. C. Hayes, and S. D. Jacobs, presented at the SPIE 48th Annual Meeting, San Diego, CA, 3–8 August 2003.

"Polishing PMMA and Other Optical Polymers with Magnetorheological Finishing," J. E. DeGroote, H. J. Romanofsky, I. A. Kozhinova, J. M. Schoen, and S. D. Jacobs, presented at the SPIE 48th Annual Meeting, San Diego, CA, 3–8 August 2003.

"Recent Advances in the Development of Phase-Shifting Liquid Crystal Interferometers for Visible and Near-IR Applications," K. L. Marshall, B. Klehn, B. Watson, and D. W. Griffin, presented at the SPIE 48th Annual Meeting, San Diego, CA, 3–8 August 2003.

"Transition Metal Dithiolene Complexes as Near-IR Dyes for Liquid Crystal Device Applications," K. L. Marshall, B. Schudel, and I. A. Lippa, presented at the SPIE 48th Annual Meeting, San Diego, CA, 3–8 August 2003.

"Quartz Equation-of-State (EOS) Measurements at the OMEGA Laser Facility," T. R. Boehly, T. J. B. Collins, E. Vianello, D. Jacobs-Perkins, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, G. W. Collins, S. J. Moon, M. E. Foord, J. H. Eggert, and R. Cauble, presented at the 13th APS Topical Conference on Shock Compression of Condensed Materials, Portland, OR, 20–25 July 2003.

"Highly-Stable, All-Solid-State Regenerative Amplifier for the OMEGA ICF Facility," A. V. Okishev, presented at the XI Conference on Laser Optics, St. Petersburg, Russia, 30 June–4 July 2003.

"Modern Diagnostics for Large ICF Laser Systems," A. V. Okishev, W. A. Bittle, R. Boni, W. R. Donaldson, P. A. Jaanimagi, D. Jacobs-Perkins, R. L. Keck, J. H. Kelly, T. J. Kessler, S. F. B. Morse, R. G. Roides, W. Seka, L. J. Waxer, and J. D. Zuegel, presented at the XI Conference on Laser Optics, St. Petersburg, Russia, 30 June–4 July 2003.

"Advanced Target Designs for the Direct-Drive Inertial Confinement Fusion," V. N. Goncharov, P. B. Radha, P. W. McKenty, D. D. Meyerhofer, S. Skupsky, T. J. B. Collins, and T. C. Sangster, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"The Effects of Implosion Asymmetry on Shock Dynamics in OMEGA Direct-Drive Experiments," J. R. Rygg, F. H. Séguin, C. K. Li, J. A. Frenje, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, J. P. Knauer, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, V. A. Smalyuk, J. M. Soures, C. Stoeckl, and S. P. Hatchett, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Experimental Scalings for the Two-Plasmon-Decay Instability," C. Stoeckl, R. E. Bahr, V. Yu. Glebov, A. V. Maximov, J. Myatt, T. C. Sangster, W. Seka, B. Yaakobi, and J. P. Jadeau, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Fast Electron Transport in Dense Plasmas in the Context of Fast Ignition Studies at LLE," J. Myatt, A. V. Maximov, and R. W. Short, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"First Measurement of Shock-Coalescence Timing and $\rho R$ Evolution of D$^3$He Implosions at OMEGA," J. A. Frenje, C. K. Li, F. H. Séguin, J. DeCiantis, J. R. Rygg, S. Kurebayashi, B. E. Schwartz, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, J. M. Soures, C. Stoeckl, and S. P. Hatchett, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Investigation of the Two-Plasmon-Decay Instability Using Thomson Scattering," W. Seka, H. Baldis, S. Depierreux, R. S. Craxton, S. P. Regan, C. Stoeckl, R. W. Short, A. V. Maximov, J. Myatt, and R. E. Bahr, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"A Magnetic Recoil Spectrometer (MRS) for Precise $\rho R_{\text{fuel}}$ and $T_i$ Measurements of Implosions at OMEGA and the NIF," J. A. Frenje, R. D. Petrasso, C. K. Li, F. H. Séguin, J. DeCiantis, S. Kurebayashi, J. R. Rygg, B. E. Schwartz, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, J. M. Soures, S. P. Hatchett, S. W. Haan, G. J. Schmid, N. Landen, N. Izumi, and D. Stelter, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Nonlinear Propagation of Crossing Laser Beams in Direct-Drive Target Plasmas," A. V. Maximov, J. Myatt, W. Seka, and R. W. Short, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"On the Bell–Plesset Effects: The Effects of Uniform Compression and Geometrical Convergence on the Classical Rayleigh–Taylor Instability," R. Epstein, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Proton Core Imaging Spectroscopy on OMEGA Implosions," J. DeCiantis, B. E. Schwartz, J. A. Frenje, F. H. Séguin, S. Kurebayashi, C. K. Li, R. D. Petrasso, J. A. Delettrez, J. M. Soures, V. Yu. Glebov, V. N. Goncharov, D. D. Meyerhofer, P. B. Radha, S. Roberts, T. C. Sangster, C. Stoeckl, and S. P. Hatchett, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Proton Temporal Diagnostic for ICF Experiments on OMEGA," V. Yu. Glebov, C. Stoeckl, S. Roberts, T. C. Sangster, J. A. Frenje, R. D. Petrasso, R. A. Lerche, and R. L. Griffith, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Relationship of Secondary Nuclear Production to Implosion Characteristics at OMEGA," S. Kurebayashi, F. H. Séguin, J. A. Frenje, C. K. Li, R. D. Petrasso, J. R. Rygg, B. E. Schwartz, J. DeCiantis, V. Yu Glebov, J. A. Delettrez, T. C. Sangster, J. M. Soures, S. P. Hatchett, and P. A. Amendt, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Time Evolution of Areal Density Asymmetries in OMEGA Direct-Drive Implosions," F. H. Séguin, J. R. Rygg, J. A. Frenje, C. K. Li, R. D. Petrasso, J. A. Delettrez, J. M. Soures, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, D. D. Meyerhofer, T. C. Sangster, R. L. Keck, P. W. McKenty, F. J. Marshall, V. A. Smalyuk, and S. P. Hatchett, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Transport of Relativistic Electrons for Modeling Fast Ignition in the 2-D Hydrocode *DRACO*," J. A. Delettrez, S. Skupsky, and P. B. Radha, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Two-Dimensional *SAGE* Simulations of Polar Direct-Drive on the NIF," R. S. Craxton, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"Two-Plasmon Decay, Overlapping Beams, and Electron-Acoustic Waves," R. W. Short, presented at the 33rd Anomalous Absorption Conference, Lake Placid, NY, 22–27 June 2003.

"EXAFS Detection of Laser Shock Heating," B. Yaakobi, D. D. Meyerhofer, T. R. Boehly, F. J. Marshall, D. Salzmann, R. Epstein, B. A. Remington, S. M. Pollaine, and J. J. Rehr, presented at JOWOG 37, Aldermaston, United Kingdom, 9–13 June 2003.

"Measurements of the $D_2$ EOS in the Mbar Pressure Range," T. R. Boehly, T. J. B. Collins, E. Vianello, D. Jacobs-Perkins, D. D. Meyerhofer, P. M. Celliers, G. W. Collins, D. G. Hicks, and R. C. Cauble, presented at JOWOG 37, Aldermaston, United Kingdom, 9–13 June 2003.

"Coherent Summation of Holographic Gratings for Pulse Compression Within Petawatt Laser Systems," J. Bunkenburg, T. J. Kessler, H. Hu, C. Kellogg, and C. Kelly, presented at CLEO 2003, Baltimore, MD, 1–6 June 2003.

"Independent Spatial Phase and Amplitude Laser Beam Control with a Single Spatial Light Modulator," V. Bagnoud, A. Stout, and J. D. Zuegel, presented at CLEO 2003, Baltimore, MD, 1–6 June 2003.

"Measurement for the Time-Resolved Spatial Profile of a Laser," J.-R. Park, W. R. Donaldson, and R. Sobolewski, presented at CLEO 2003, Baltimore, MD, 1–6 June 2003.

"Prototype Front End for a Petawatt Laser System Using Optical Parametric Chirped-Pulse Amplification," J. D. Zuegel, V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Keegan, J. Puth, and L. J. Waxer, presented at CLEO 2003, Baltimore, MD, 1–6 June 2003 (invited).

"Screening Effect in Very Fast Submicron Metal–Semiconductor–Metal Ultraviolet Photodetectors," J. Li, W. R. Donaldson, and T. Y. Hsiang, presented at CLEO 2003, Baltimore, MD, 1–6 June 2003.

"Demonstration of Room Temperature Single-Photon Source: Laser Control of Single Dye Molecule Fluorescence in Photonic-Band-Gap Liquid Crystal Host," S. G. Lukishova, A. W. Schmid, A. J. McNamara, R. W. Boyd, and C. R. Stroud, presented at QELS 2003, Baltimore, MD, 1–6 June 2003.

"Advanced Target Designs for the Direct-Drive Inertial Confinement Fusion," V. N. Goncharov, P. W. McKenty, D. D. Meyerhofer, S. Skupsky, T. J. B. Collins, P. B. Radha, and T. C. Sangster, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Cryogenic Target Characterization at LLE-A Status Report," W. Seka, A. Warrick, M. D. Wittman, R. S. Craxton, L. M. Elasky, D. R. Harding, R. L. Keck, M. Pandina, and T. G. Brown, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Effects of Cooling and Hydrogen-Ice Formation on the Out-of-Roundness of Cryogenic Fuel Capsules," M. D. Wittman, L. M. Elasky, D. R. Harding, W. Seka, and A. Warrick, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Heat Conduction and Absorption in Condensed Deuterium Layers," R. Q. Gram, E. L. Alfonso, and D. R. Harding, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Implementation and Effects of Closed-Loop Controls on OPO IR Sources for Cryogenic Target Layering," L. M. Elasky, D. J. Lonobile, W. A. Bittle, D. R. Harding, A. V. Okishev, and J. D. Zuegel, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Modeling Temperature and Pressure Gradients During Cooling of Thin-Walled Cryogenic Targets," E. L. Alfonso, R. Q. Gram, and D. R. Harding, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Progress in Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," D. D. Meyerhofer, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003 (invited).

"Status of the Ice-Layering Development Effort on OMEGA," D. R. Harding, M. D. Wittman, L. M. Elasky, J. Sailor, and E. L. Alfonso, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Suitability of Different Polyimide Capsule Materials for Use as ICF Targets," A. K. Knight, F.-Y. Tsai, M. J. Bonino, and D. R. Harding, presented at the 15th Target Fabrication Specialists' Meeting, Gleneden Beach, OR, 1–5 June 2003.

"Recovery of Tritium from Tritiated Pharmaceutical Mixed Wastes for Reuse: A Commercial Reality," W. T. Shmayda, presented at the 8th International Symposium on the Synthesis and Applications of Isotopes and Isotopically Labelled Compounds, Boston, MA, 1–5 June 2003.

"EXAFS Measurements of Shocked Materials," B. Yaakobi, T. R. Boehly, F. J. Marshall, R. Epstein, D. D. Meyerhofer, B. A. Remington, S. M. Pollaine, and J. J. Rehr, presented at the 2003 National Synchotron Light Source Users' Meeting, Upton, NY, 20–21 May 2003.

"Characterizing Optical Polishing Pitch," R. Varshneya, J. E. DeGroote, L. L. Gregg, and S. D. Jacobs, presented at Optifab 2003, Rochester, NY, 19–22 May 2003.

"Determination of Subsurface Damage in Single Crystalline Optical Materials," J. A. Randi, J. C. Lambropoulos, S. D. Jacobs, and S. N. Shafrir, presented at Optifab 2003, Rochester, NY, 19–22 May 2003.

"Grain Decoration in Aluminum Oxynitride (ALON) from Polishing on Bound Abrasive Laps," A. E. Marino, J. Hayes, L. L. Gregg, and S. D. Jacobs, presented at Optifab 2003, Rochester, NY, 19–22 May 2003.

"Magnetorheological Finishing of a Diamond Turned Poly(Methylmethacrylate) Flat," J. E. DeGroote, S. D. Jacobs, J. M. Schoen, H. J. Romanofsky, and I. A. Kozhinova, presented at Optifab 2003, Rochester, NY, 19–22 May 2003.

"Pre-Polishing on a CNC Platform with Bound Abrasive Contour Tools," A. E. Schoeffler, L. L. Gregg, J. M. Schoen, E. Fess, M. Hakiel, and S. D. Jacobs, presented at Optifab 2003, Rochester, NY, 19–22 May 2003.

"Refractive Index Anisotropy in Optics Using a Birefringence Mapper," J. L. Sternal, S. N. Shafrir, J. A. Randi, L. L. Gregg, and S. D. Jacobs, presented at Optifab 2003, Rochester, NY, 19–22 May 2003.

"Polymer Cholesteric Liquid Crystal Flakes for Particle Displays," T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at the SID International Symposium, Seminar, and Exhibition, Baltimore, MD, 18–23 May 2003.

"Experiences Imploding Cryogenic Targets on OMEGA," D. R. Harding, presented at the 4th Laser Operations Workshop, Aldermaston, United Kingdom, 13–15 May 2003.

"Laser Design Considerations for Optimizing the Performance of OMEGA EP," L. J. Waxer, presented at the 4th Laser Operations Workshop, Aldermaston, United Kingdom, 13–15 May 2003.

"OMEGA EP Architecture and Linkage to OMEGA," S. F. B. Morse, presented at the 4th Laser Operations Workshop, Aldermaston, United Kingdom, 13–15 May 2003.

"Overview of OMEGA Performance," S. J. Loucks, presented at the 4th Laser Operations Workshop, Aldermaston, United Kingdom, 13–15 May 2003.

"Optimization of Deposition Uniformity for Large Aperture NIF Substrates in a Planetary Rotation System," J. B. Oliver and D. Talbot, presented at the 46th Annual SVC Technical Conference, San Francisco, CA, 5–6 May 2003.

"Deposition of Low Surface Roughness Iridium for use in an X-Ray Microscope," N. L. Bassett, J. B. Oliver, O. V. Gotchev, and J. P. Knauer, presented at the International Conference on Metallurgical Coatings and Thin Films, San Diego, CA, 28 April–2 May 2003.

"Electro-Optics of Glassy Cholesteric Liquid Crystal Flakes," S. D. Jacobs, T. Z. Kosc, and K. L. Marshall, presented at the NSF Workshop on Fundamental Research Needs in Photonic Materials Synthesis and Processing at the Interface, Rochester, NY, 28–30 April 2003.

"Surface Patterns of Tetragonal Phase FePt Thin Films from Pt at $Fe_2O_3$ Core–Shell Nanoparticles Using Combined Langmuir–Blodgett and Soft Lithographic Techniques," Q. Guo, X. Teng, and H. Yang, presented at the 2003 MRS Spring Meeting and Exhibit, San Francisco, CA, 21–25 April 2003.

"New Results in Direct-Drive Inertial Confinement Fusion," T. C. Sangster, presented at the APS April 2003 Meeting, Philadelphia, PA, 5–8 April 2003.

"Dye-Doped Cholesteric-Liquid-Crystal Single Photon Source," S. G. Lukishova, A. W. Schmid, A. J. McNamara, R. W. Boyd, and C. R. Stroud, presented at the NIST Workshop on Single Photon Detectors, Applications, and Measurement Methods, Gaithersburg, MD, 31 March–1 April 2003.

"Metal Decontamination," W. T. Shmayda, presented at the Workshop on Experience in the Management of Wastes from Fusion Facilities, Abington, United Kingdom, 25–26 March 2003.

"Recovery and Enrichment of Tritium from Organic and Aqueous Liquid Waste Streams," W. T. Shmayda, presented at the Workshop on Experience in the Management of Wastes from Fusion Facilities, Abington, United Kingdom, 25–26 March 2003.

"Direct-Drive Inertial Fusion Research at the University of Rochester's Laboratory for Laser Energetics: A Review," R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. E. Bahr, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, W. R. Donaldson, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, J. D. Kilkenny, J. P. Knauer, C. K. Li, L. D. Lund, J. A. Marozas, P. W. McKenty, F. J. Marshall, S. F. B. Morse, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, K. A. Thorp, B. Yaakobi, and J. D. Zuegel, presented at the 5th Symposium of the Current Trends in International Fusion Research: A Review, Washington, DC, 24–28 March 2003.

"Experimental Observations of the Landau Cutoff for Electron Plasma Waves Driven by the TPD Instability," W. Seka, H. A. Baldis, S. Depierreux, R. S. Craxton, S. P. Regan, C. Stoeckl, and R. W. Short, presented at the 5th International Workshop on Laser Plasma Interaction Physics, Banff, Alberta, Canada, 19–22 February 2003.

"Optimization of an Optical Parametric Chirped Pulse Amplification System for the OMEGA EP Laser System," I. Begishev, V. Bagnoud, M. Guardalben, L. Waxer, J. Puth, and J. Zuegel, presented at 2003 Advanced Solid-State Photonics, San Antonio, TX, 2–5 February 2003.

"Very Fast Metal–Semiconductor–Metal Ultraviolet Photodetectors on GaN with Submicron Finger Width," J. Li, W. R. Donaldson, and T. Y. Hsiang, presented at Ultrafast Electronics and Optoelectronics, Washington, DC, 15–17 January 2003.

"Innovations in Polishing of Precision Optics," S. D. Jacobs, presented at the EOS 2003 International Workshop on Extreme Optics and Sensors, Tokyo, Japan, 14–17 January 2003 (invited).

## 2002

"Fast Electron Transport in Dense Plasmas in the Context of Fast-Ignition Studies at LLE," J. Myatt, A. V. Maximov, and R. W. Short, presented at the 6th Workshop on Fast Ignition of Fusion Targets, St. Pete Beach, FL, 16–19 November 2002.

"Integrated Fast-Ignitor Experiments on the Proposed OMEGA EP Facility at LLE," C. Stoeckl, J. A. Delettrez, A. V. Maximov, J. Myatt, P. W. McKenty, S. F. B. Morse, L. J. Waxer, T. C. Sangster, D. D. Meyerhofer, and J. D. Kilkenny, presented at the 6th Workshop on Fast Ignition of Fusion Targets, St. Pete Beach, FL, 16–19 November 2002.

"Transport of Relativistic Electrons for Modeling Fast Ignition in the 2-D Hydrocode *DRACO*," J. A. Delettrez, S. Skupsky, C. Stoeckl, and P. B. Radha, presented at the 6th

Workshop on Fast Ignition of Fusion Targets, St. Pete Beach, FL, 16–19 November 2002.

"Adiabat Shaping of ICF Capsules Using Ramped Pressure Profiles," K. Anderson, R. Betti, T. J. B. Collins, M. M. Marinak, and S. W. Haan, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Axisymmetric MHD Equilibria with Arbitrary Flow and Applications to NSTX," T. A. Gardiner, L. Guazzotto, R. Betti, and J. Manickam, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Capsule Areal-Density Asymmetries and Time Evolution Inferred from 14.7-MeV Proton Line Structure in OMEGA D3He Implosions," C. K. Li, F. H. Séguin, J. A. Frenje, R. D. Petrasso, J. R. Rygg, S. Kurebayashi, B. E. Schwartz, R. L. Keck, J. A. Delettrez, J. M. Soures, P. W. McKenty, V. N. Goncharov, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, and C. Stoeckl, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002 (invited).

"Deuterium Equation-of-State Experiments on OMEGA," T. R. Boehly, T. J. B. Collins, E. Vianello, D. Jacobs-Perkins, D. D. Meyerhofer, G. W. Collins, P. M. Celliers, D. G. Hicks, and R. C. Cauble, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Direct-Drive Cryogenic Target Implosion Performance on OMEGA," T. C. Sangster, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. P. Knauer, R. L. Keck, J. D. Kilkenny, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, S. F. B. Morse, S. P. Regan, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, C. Stoeckl, K. A. Thorp, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. A. Fletcher, S. Padalino, C. Freeman, N. Izumi, J. A. Koch, R. A. Lerche, M. J. Moran, T. W. Phillips, and G. J. Schmid, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002 (invited).

"Direct-Drive Fast-Ignition Research at LLE," D. D. Meyerhofer, J. A. Delettrez, D. R. Harding, J. D. Kilkenny, S. J. Loucks, R. L. McCrory, P. W. McKenty, S. F. B. Morse, T. C. Sangster, S. Skupsky, and C. Stoeckl, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"The Effect of Laser Imprint on Target Performance in Direct-Drive Implosions on OMEGA," P. B. Radha, T. J. B. Collins, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, J. A. Marozas, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, S. Skupsky, J. M. Soures, V. A. Smalyuk, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, and R. P. J. Town, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Effects of Fuel–Shell Mix on Direct-Drive Implosions of $^{3}$He-Gas-Filled, CD-Layered Plastic Capsules on OMEGA," J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, J. M. Soures, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, C. Stoeckl, N. M. Hoffmann, and D. C. Wilson, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"EXAFS Detection of Shock-Compressed Titanium," B. Yaakobi, T. R. Boehly, F. J. Marshall, D. D. Meyerhofer, R. Epstein, B. A. Remington, and S. M. Pollaine, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Experimental Investigation of Fuel–Pusher Mix in Direct-Drive Implosions on OMEGA," S. P. Regan, J. A. Delettrez, F. J. Marshall, J. M. Soures, V. A. Smalyuk, B. Yaakobi, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, D. A. Haynes, Jr., J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Experiments on Dynamic Overpressure Stabilization of Ablative Richtmyer–Meshkov Growth in ICF Targets on OMEGA," O. V. Gotchev, V. N. Goncharov, P. A. Jaanimagi, J. P. Knauer, and D. D. Meyerhofer, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Explorations of Stopping Power and Secondary Nuclear Production in OMEGA Implosions," J. R. Rygg, S. Kurebayashi, B. E. Schwartz, J. DeCiantis, S. Burke, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, D. D. Meyerhofer, P. B. Radha, S. Roberts, T. C. Sangster, J. M. Soures, C. Stoeckl, N. M. Hoffmann, and D. C. Wilson, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"High-Gain, Direct-Drive Foam Target Designs for the National Ignition Facility," T. J. B. Collins, S. Skupsky, V. N. Goncharov, R. Betti, P. W. McKenty, and P. B. Radha, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Hydrodynamic Growth of Shell Modulations in the Deceleration Phase of Spherical Direct-Drive Implosions," V. A. Smalyuk, J. A. Delettrez, S. B. Dumanis, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, S. Skupsky, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, D. L. McCrorey, R. C. Mancini, and J. A. Koch, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002 (invited).

"Improved Performance of Direct-Drive Implosions with a Laser-Shaped Adiabat," J. P. Knauer, V. N. Goncharov, P. W. McKenty, T. C. Sangster, R. Betti, V. Yu. Glebov, F. J. Marshall, P. B. Radha, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H.

Séguin, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Improved Performance of Direct-Drive Inertial Confinement Fusion Target Designs with Adiabat Shaping Using an Intensity Picket," V. N. Goncharov, J. P. Knauer, P. W. McKenty, P. B. Radha, T. C. Sangster, S. Skupsky, R. Betti, R. L. McCrory, and D. D. Meyerhofer, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002 (invited).

"A Linear Model of Anomalous Stimulated Raman Scattering and Electron Acoustic Waves in Laser-Produced Plasmas," R. W. Short, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Microdot Expansion Trajectories in Long-Scale-Length Plasmas on OMEGA," R. S. Craxton, S. P. Regan, J. A. Delettrez, D. D. Meyerhofer, T. C. Sangster, W. Seka, and B. Yaakobi, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"A Model of Hot-Electron Signals with Overlapping Pump Beams," A. Simon and C. Stoeckl, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Modeling of Fuel–Pusher Mix Effects in 1-D Simulations of Cryogenic, All-DT Ignition Capsule Implosions," R. Epstein, T. J. B. Collins, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Modeling of Laser–Plasma Interaction Near the Critical Density," A. V. Maximov, J. Myatt, and R. W. Short, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Neutron Burn History Measurements of $D_2$ Cryogenic Targets on OMEGA," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, J. A. Delettrez, P. W. McKenty, and P. B. Radha, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Multiple-Beam Effects on the Fast-Electron Generation due to the Two-Plasmon-Decay Instability," C. Stoeckl, R. E. Bahr, R. S. Craxton, S. P. Regan, W. Seka, and B. Yaakobi, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Numerical Investigation into the Sensitivity of OMEGA Cryogenic Capsule Implosions to Low-Order-Mode Ice Perturbations," P. W. McKenty, L. M. Elasky, D. R. Harding, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, S. Skupsky, R. L. McCrory, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 44th Annual

Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Numerical Investigation of Laser Absorption and Drive Experiments of CH Spherical Shells on the OMEGA Laser," J. A. Delettrez, J. P. Knauer, W. Seka, P. A. Jaanimagi, and C. Stoeckl, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Offset, Direct-Drive, $D_2$-Filled CH Capsules," J. M. Soures, F. J. Marshall, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, T. C. Sangster, J. A. Frenje, C. K. Li, and R. D. Petrasso, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Optimized Direct-Drive Uniformity," F. J. Marshall, P. W. McKenty, T. J. Kessler, R. Forties, J. H. Kelly, and L. J. Waxer, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Proton and Alpha Core Imaging of OMEGA D$^3$He Implosions," R. D. Petrasso, J. A. Frenje, F. H. Séguin, C. K. Li, B. E. Schwartz, C. Stoeckl, P. B. Radha, J. A. Delettrez, D. D. Meyerhofer, S. Roberts, T. C. Sangster, and J. M. Soures, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Proton and Alpha Core Imaging Spectroscopy of Direct-Drive OMEGA Implosions," B. E. Schwartz, F. H. Séguin, J. A. Frenje, R. D. Petrasso, C. K. Li, P. B. Radha, D. D. Meyerhofer, S. Roberts, T. C. Sangster, J. M. Soures, and C. W. Culligan, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Realistic Simulations of Stimulated Brillouin Scattering in Long-Scale-Length, Direct-Drive Experiments on OMEGA," J. Myatt, A. V. Maximov, and R. W. Short, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"SBS in Long-Scale-Length Plasmas for Direct-Drive ICF: Comparing Experiments with Simulations," W. Seka, R. S. Craxton, J. Myatt, A. V. Maximov, D. D. Meyerhofer, S. P. Regan, R. W. Short, A. Simon, C. Stoeckl, R. E. Bahr, and H. A. Baldis, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"SBS in Multiple-Species Plasmas," M. V. Kozlov and C. J. McKinstrie, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Simulations of Cryogenic Target Implosions on OMEGA," I. V. Igumenshchev, V. N. Goncharov, P. W. McKenty, and S. Skupsky, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"A SSD Model for Arbitrary Pulse Shapes Used in the Multidimensional Hydrodynamic Code *DRACO*," J. A. Marozas and P. B. Radha, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Stopping Power and Secondary Nuclear Production in OMEGA Implosions," S. Kurebayashi, J. R. Rygg, B. E. Schwartz, J. DeCiantis, S. Burke, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, J. M. Soures, D. D. Meyerhofer, S. Roberts, T. C. Sangster, C. Stoeckl, N. M. Hoffmann, and D. C. Wilson, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Theory of Laser-Induced Adiabat Shaping in Inertial Fusion Implosions," R. Betti and K. Anderson, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Time Evolution and Asymmetries of OMEGA Direct-Drive $D^3He$ Capsule Implosions Inferred from 3.0- and 14.7-MeV Protons and 3.6-MeV Alphas," F. H. Séguin, R. D. Petrasso, J. A. Frenje, C. K. Li, J. R. Rygg, C. Stoeckl, P. B. Radha, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, and J. M. Soures, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Two-Dimensional MHD Simulations of Tokamak Plasmas with Poloidal Flow," L. Guazzotto and R. Betti, presented at the 44th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 11–15 November 2002.

"Progress in Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. E. Bahr, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, W. R. Donaldson, R. Epstein, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, C. K. Li, L. D. Lund, J. A. Marozas, P. W. McKenty, F. J. Marshall, S. F. B. Morse, R. D. Petrasso, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, C. Sorce, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, and J. D. Zuegel, presented at the 19th IAEA Fusion Energy Conference, Lyon, France, 14–19 October 2002.

"Development of an Optical Parametric Chirped-Pulse Amplifier Front End for the OMEGA EP Laser," L. J. Waxer, V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Puth, and J. D. Zuegel, presented at the 2002 OSA Annual Meeting, Orlando, FL, 29 September–3 October 2002.

"Feedback-Free Pattern Formation in Dye-Doped Liquid Crystals and Isotropic Liquids," S. G. Lukishova, R. W. Boyd, N. Lepeshkin, A. W. Schmid, and K. L. Marshall, presented at the 2002 OSA Annual Meeting, Orlando, FL, 29 September–3 October 2002.

"Stability of Optical Parametric Amplification: Spatiotemporal Considerations in the Design of an OPCPA System," M. J. Guardalben, J. Keegan, L. J. Waxer, and J. D. Zuegel, presented at the 2002 OSA Annual Meeting, Orlando, FL, 29 September–3 October 2002.

"Aspheric Optics Manufacturing for Commercial and Military Systems," S. D. Jacobs, H. M. Pollicove, E. M. Fess, and J. Schoen, presented at the First Symposium for Explosive Materials, Weapons, and Military Technology, Ohrid, Republic of Macedonia, 25–28 September 2002.

"Experimental Investigation of Shell Mix in the Compressed Core of Spherical Implosions Involving Hot, Dense Spectroscopy," S. P. Regan, J. A. Delettrez, F. J. Marshall, J. M. Soures, V. A. Smalyuk, B. Yaakobi, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, D. A. Haynes, Jr., I. E. Golovkin, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, 10th International Workshop on Radiative Properties of Hot Dense Matter, Saint-Malo, Brittany, France, 16–20 September 2002.

"Damage Behavior of $SiO_2$ Thin Films Containing Gold Nanoparticles Lodged at Predetermined Distances from the Film Surface," S. Papernov and A. W. Schmid, presented at the XXXIV Annual Symposium on Optical Materials for High-Power Lasers, Boulder, CO, 16–19 September 2002.

"Phase-Shifting Liquid Crystal Interferometers for Microgravity Fluid Physics," D. W. Griffin and K. L. Marshall, presented at the 6th Microgravity Fluid Physics and Transport Phenomena Conference, Cleveland OH, 14–16 August 2002.

"Near-Field Optical Microscopy of Cholesteric Oligomer Liquid Crystal Layers," S. G. Lukishova, A. W. Schmid, and R. W. Boyd, 7th International Conference on Near-Field Optics and Related Techniques (NF07), Rochester, NY, 11–15 August 2002.

"Adiabat Shaping of Direct-Drive Inertial Confinement Fusion (ICF) Implosions Using a High-Intensity Picket," V. N. Goncharov, J. P. Knauer, P. W. McKenty, S. Skupsky, T. C. Sangster, R. Betti, and D. D. Meyerhofer, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Areal-Density-Growth Measurements with Proton Spectroscopy in Spherical Implosions on OMEGA," V. A. Smalyuk, P. B. Radha, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, D. D. Meyerhofer, S. P. Regan, S. Roberts, T. C. Sangster, S. Skupsky, J. M. Soures, C. Stoeckl, R. P. J. Town, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Capsule Areal-Density Nonuniformities and Evolution Inferred from 14.7-MeV Proton Line Structure in OMEGA $D^3He$ Implosions," R. D. Petrasso, J. R. Rygg, J. A. Frenje, C. K. Li, F. H. Séguin, S. Kurebayashi, B. E. Schwartz, P. B. Radha, J. M. Soures, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, T. C. Sangster, C. Stoeckl, and S. P. Hatchett, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Effects of Fuel–Shell Mix on Direct-Drive, Spherical Implosions on OMEGA," C. K. Li, F. H. Séguin, J. A. Frenje, S. Kurebayashi, R. D. Petrasso, D. D. Meyerhofer, J. M. Soures, J. A. Delettrez, V. Yu Glebov, F. J. Marshall, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, and C. Stoeckl, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Experimental Investigation of Expansion Velocity and Gradients in Long-Scale-Length Plasmas on OMEGA," S. P. Regan, R. S. Craxton, J. A. Delettrez, D. D. Meyerhofer, T. C. Sangster, W. Seka, and B. Yaakobi, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Fast-Electron Preheat of Direct-Drive Targets Due to the Two-Plasmon-Decay Instability," W. Seka, C. Stoeckl, B. Yaakobi, R. S. Craxton, R. W. Short, and H. A. Baldis, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"A Linear Model of Anomalous Stimulated Raman Scattering and Electron-Acoustic Waves in Laser-Produced Plasmas," R. W. Short, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Measurements of Heat Propagation in Compressed Shells in Direct-Drive Spherical Implosions on OMEGA," V. A. Smalyuk, J. A. Delettrez, R. Epstein, V. N. Goncharov, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, B. Yaakobi, D. L. McCrorey, and R. C. Mancini, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Modeling Laser–Plasma Interaction Physics Under Direct-Drive Inertial Confinement Fusion Conditions," J. Myatt, A. Maximov, and R. W. Short, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21-26 July 2002.

"Nonlinear Propagation of Laser Beams in Plasmas Near a Critical-Density Surface," A. Maximov, J. Myatt, and R. W. Short, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Numerical Investigation of Recent Laser Absorption and Drive Experiments of CH Spherical Shells on the OMEGA Laser," J. A. Delettrez, J. P. Knauer, P. A. Jaanimagi, W. Seka, and C. Stoeckl, presented at the 32nd Anomalous Absorption Conference, Oahu, HI, 21–26 July 2002.

"Carbon Activation Diagnostic for Tertiary Neutron Measurements," V. Yu. Glebov, C. Stoeckl, T. C. Sangster, D. D. Meyerhofer, P. B. Radha, S. Padalino, L. Baumgart, R. Coburn, and J. Fuschino, presented at the 14th Topical Conference on High Temperature Plasma Diagnostics, Madison, WI, 8–11 July 2002.

"High-Throughput, High-Resolution, Kirkpatrick–Baez Microscope for Advanced Streaked Imaging of ICF Experiments on OMEGA," O. V. Gotchev, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, N. L. Bassett, and J. B. Oliver, presented at the 14th Topical Conference on High Temperature Plasma Diagnostics, Madison, WI, 8–11 July 2002.

"Spectroscopic Determination of Compressed-Shell Conditions in OMEGA Implosions Based on Ti K-Shell Line Absorption Analysis," D. L. McCrorey, R. C. Mancini, V. A. Smalyuk, S. P. Regan, and B. Yaakobi, presented at the 14th Topical Conference on High Temperature Plasma Diagnostics, Madison, WI, 8–11 July 2002.

"Ten-Inch Manipulator-Based Neutron Temporal Diagnostic for Cryogenic Experiments on OMEGA," C. Stoeckl, V. Yu. Glebov, S. Roberts, T. C. Sangster, R. A. Lerche, R. L. Griffith, and C. Sorce, presented at the 14th Topical Conference on High Temperature Plasma Diagnostics, Madison, WI, 8–11 July 2002.

"Electric Field Induced Rotation of Polymer Cholesteric Liquid Crystal Flakes: Mechanisms and Applications," T. Z. Kosc, K. L. Marshall, S. D. Jacobs, and J. C. Lambropoulos, presented at the International Symposium on Optical Science and Technology, Seattle, WA, 7–11 July 2002.

"Feedback-Free Hexagon Pattern Formation with Nematic Liquid Crystals," S. G. Lukishova, R. W. Boyd, N. Lepeshkin, R. S. Bennink, and K. L. Marshall, presented at IQEC 2002 International Quantum Electronics Conference, Moscow, Russia, 22–28 June 2002.

"Measurements of the Equation of State of Carbon Foams," T. R. Boehly, T. J. B. Collins, D. D. Meyerhofer, D. K. Bradley, R. Cauble, P. M. Celliers, C. W. Collins, S. G. Glendinning, and D. G. Hicks, presented at the International Conference on Warm, Dense Matter, Hamburg, Germany, 3–5 June 2002 (invited).

"All Solid-State Diode-Pumped Regenerative Amplifier for the OMEGA Laser System," A. V. Okishev, D. Battaglia, I. Begishev, and J. Zuegel, presented at CLEO/ QELS 2002, Long Beach, CA, 19–24 May 2002.

"Feedback-Free Kaleidoscope of Patterns from Nanosecond Laser Irradiated Nematic Liquid," S. G. Lukishova, R. W. Boyd, N. Lepeshkin, R. S. Bennik, and K. L. Marshall, presented at CLEO/QELS 2002, Long Beach, CA, 19–24 May 2002.

"Feedback-Free Kaleidoscope of Patterns from Nanosecond Laser Irradiated Nematic Liquid," S. G. Lukishova, R. W. Boyd, and K. L. Marshall, presented at CLEO/ QELS 2002, Long Beach, CA, 19–24 May 2002.

"Precision Spectral Shaping Applied to FM Pulses," L. J. Waxer, J. H. Kelly, J. A. Marozas, A. Babushkin, J. Rothenburg, C. Bibeau, A. Bayramian, R. Beach, and S. Payne, presented at CLEO/QELS 2002, Long Beach, CA, 19–24 May 2002.

"Direct-Drive Inertial Confinement Fusion Research: Theory and Experiments," D. D. Meyerhofer, presented at the 2002 International Sherwood Fusion Theory Conference, Rochester, NY, 22–24 April 2002.

"Linear Undamped Waves in Near-Maxwellian Plasmas with Applications to Stimulated Raman Scattering in Laser-Produced Plasmas," R. W. Short, presented at the 2002 International Sherwood Fusion Theory Conference, Rochester, NY, 22–24 April 2002.

"Magnetohydrodynamic Equilibria with Pedestals Induced by Poloidal Flow," T. Gardiner and R. Betti, presented at the 2002 International Sherwood Fusion Theory Conference, Rochester, NY, 22–24 April 2002.

"Stabilization of the Resistive Wall Mode by Differentially Rotating Walls in a High-$\beta$ Tokamak," L. Guazzotto and R. Betti, 2002 presented at the International Sherwood Fusion Theory Conference, Rochester, NY, 22–24 April 2002.

"OMEGA EP: Extended-Performance Capability for the OMEGA Laser System, Including Short-Pulse Capability," J. D. Kilkenny, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, J. H. Kelly, T. J. Kessler, S. J. Loucks, P. W. McKenty, C. Stoeckl, R. P. J. Town, L. J. Waxer, and J. D. Zuegel, presented at the Workshop on Ultra-High Field Laser Physics, Chilton, Oxford, UK, 10–12 April 2002.

"Recovery of Tritium from Pharmaceutical Mixed Waste Liquids and Solid Absorbents," W. T. Shmayda and R. D. Gallagher, presented at the 4th International Conference on Isotopes, Cape Town, South Africa, 10–14 March 2002.

"Laser–Plasma Interaction Studies on OMEGA Relevant to Direct-Drive NIF Ignition Targets," W. Seka, presented at the LULI Seminar, St. Lary, France, 4 March 2002.

"Highly Stable, Diode-Pumped, Cavity-Dumped Nd:YLF Regenerative Amplifier for the OMEGA Laser Fusion Facility," A. V. Okishev, D. J. Battaglia, I. A. Begishev, and J. D. Zuegel, presented at OSA Advanced Solid-State Lasers, Quebec City, Canada, 3–6 February 2002.

"EXAFS Detection of Heating of Metals by Shocks and Radiation," D. D. Meyerhofer, B. Yaakobi, T. R. Boehly, F. J. Marshall, and R. P. J. Town, presented at JOWOG 37, Livermore, CA, 28 January–1 February 2002.

**2001**

"Nonlocal Electron Thermal Conduction in Laser Implosions," A. Sunahara, J. A. Delettrez, R. W. Short, S. Skupsky, and H. Takabe, presented at the 15th Computational Fluid Dynamics Symposium, Tokyo, Japan, 19–21 December 2001.

"One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged-Particle Yield from Laser-Driven Implosion Experiments," R. Epstein, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, P. W. McKenty, P. B. Radha, S. Skupsky, V. A. Smalyuk, and C. Stoeckl, presented at the 8th International Workshop on the Physics of Compressible Turbulent Mixing, Pasadena, CA, 9–14 December 2001.

"Advanced Tritium Recovery System," H. Brunnader, W. T. Shmayda, D. R. Harding, L. D. Lund, and R. Janezic, presented at the 6th International Conference on Tritium Science and Technology, Tsukuba, Japan, 6–11 November 2001.

"Monitoring Tritium Activity on Surfaces: Recent Developments," C. R. Shmayda, W. T. Shmayda, and N. P. Kherani, presented at the 6th International Conference on Tritium Science and Technology, Tsukuba, Japan, 6–11 November 2001.

"Properties of Amorphous Carbon Films," W. T. Shmayda, S. Zukotynski, D. Yeghikyan, and F. Gaspari, presented at the 6th International Conference on Tritium Science and Technology, Tsukuba, Japan, 6–11 November 2001.

"Recovery of Tritium from Pharmaceutical Mixed Waste Liquids," W. T. Shmayda and R. D. Gallagher, presented at the 6th International Conference on Tritium Science and Technology, Tsukuba, Japan, 6–11 November 2001.

"Treatment of Tritiated Solvents," W. T. Shmayda, A. Bruggeman, J. Braet, and S. Vanderbiesen, presented at the 6th International Conference on Tritium Science and Technology, Tsukuba, Japan, 6–11 November 2001.

"Gas Permeability of Vapor-Deposited Polyimide," F.-Y. Tsai, D. R. Harding, S. H. Chen, T. N. Blanton, and E. L. Alfonso, presented at the AICHE Annual Meeting, Reno, NV, 4–9 November 2001.

"A Parametric Study on the Vapor Deposition of Polymide Thin Films," F.-Y. Tsai, D. R. Harding, S. H. Chen, T. N. Blanton, and E. L. Alfonso, presented at the AICHE Annual Meeting, Reno, NV, 4–9 November 2001.

"Charged-Particle Measurements of Shell Asymmetries in Imploded Capsules on OMEGA," F. H. Séguin, R. D. Petrasso, C. K. Li, J. A. Frenje, S. Kurebayashi, J. A. Delettrez, J. M. Soures, D. D. Meyerhofer, F. J. Marshall, V. A. Smalyuk, S. Roberts, and

T. C. Sangster, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Comparison of the Effect of Different SSD Beam-Smoothing Configurations on Direct-Drive Capsule Implosions," J. M. Soures, D. D. Meyerhofer, J. A. Delettrez, V. Yu. Glebov, J. A. Marozas, F. J. Marshall, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Stoeckl, R. D. Petrasso, C. K. Li, F. H. Séguin, J. A. Frenje, and T. C. Sangster, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Deceleration Phase of Inertial Confinement Fusion Implosions," R. Betti, V. N. Goncharov, J. P. Knauer, P. W. McKenty, D. D. Meyerhofer, R. L. McCrory, S. Skupsky, and R. P. J. Town, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001 (invited).

"Direct-Drive Implosion Experiments with Enhanced Beam Balance on the OMEGA Laser," F. J. Marshall, J. A. Delettrez, R. L. Keck, J. H. Kelly, P. B. Radha, and L. J. Waxer, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Direct-Drive, Spherical Implosions of OMEGA Capsules with 3 to 15 atm of Gas Fill," C. K. Li, F. H. Séguin, J. A. Frenje, S. Kurebayashi, R. D. Petrasso, D. D. Meyerhofer, J. M. Soures, V. Yu. Glebov, P. B. Radha, S. P. Regan, S. Roberts, S. Skupsky, C. Stoeckl, and T. C. Sangster, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"EXAFS Detection of Laser Shock Heating," D. D. Meyerhofer, B. Yaakobi, F. J. Marshall, T. R. Boehly, and R. P. J. Town, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Experimental Inferences of $\rho R$ Evolution and the Spatial Extent of Mix from the $D^3He$, 14.7-MeV Proton Line Structure," R. D. Petrasso, C. K. Li, F. H. Séguin, J. A. Frenje, S. Kurebayashi, P. B. Radha, D. D. Meyerhofer, J. M. Soures, J. A. Delettrez, C. Stoeckl, S. Roberts, V. Yu. Glebov, W. Seka, C. Chiritescu, and T. C. Sangster, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"First Results from Cryogenic-Target Implosions on OMEGA," C. Stoeckl, C. Chiritescu, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, R. L. Keck, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, S. F. B. Morse, S. P. Regan, P. B. Radha, S. Roberts, T. C. Sangster, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, R. P. J. Town, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. A. Lerche, and T. W. Phillips, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001 (invited).

"Fokker–Planck Calculation of the ICF Implosion," A. Sunahara, J. A. Delettrez, R. W. Short, and S. Skupsky, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Forming Uniform Deuterium Ice Layers in Cryogenic Targets: Experiences Using the OMEGA Target Handling System," D. R. Harding, M. D. Wittman, L. Elasky, L. S. Iwan, and L. D. Lund, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Inference of Mix in Direct-Drive Implosions on OMEGA," P. B. Radha, J. A. Delettrez, R. Epstein, V. Yu. Glebov, R. L. Keck, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, F. J. Marshall, S. P. Regan, S. Roberts, T. C. Sangster, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. A. Lerche, and T. W. Phillips, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001 (invited).

"Interpretation of Single- and Multiple-Beam SBS Observations in OMEGA Long-Scale-Length Plasma Experiments," R. W. Short, R. S. Craxton, W. Seka, and D. D. Meyerhofer, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Measurements of the Equation of State of Carbon Foams," T. R. Boehly, T. J. B. Collins, D. D. Meyerhofer, W. J. Armstrong, D. K. Bradley, R. Cauble, P. M. Celliers, G. W. Collins, and S. G. Glendinning, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Measurements of the Growth of Shell Nonuniformities in the Deceleration Phase of Spherical Implosions," V. A. Smalyuk, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, and B. Yaakobi, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"OMEGA Direct-Drive Cryogenic-Target Physics," R. P. J. Town, J. A. Delettrez, R. Epstein, V. N. Goncharov, R. L. McCrory, P. W. McKenty, P. B. Radha, and S. Skupsky, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Optimization of Direct-Drive Target Designs for the NIF," V. N. Goncharov, R. Betti, J. A. Marozas, P. W. McKenty, S. Skupsky, and R. P. J. Town, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Properties of $SiO_2$ Aerogels Suitable for Astrophysical Experiments," S. L. Sublett, J. P. Knauer, D. D. Meyerhofer, S. Skupsky, A. Frank, and A. Y. Poludenenko, presented at

the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"A Reduced-Autocorrelation Phase-Plate Design for OMEGA and NIF," J. A. Marozas, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Simulations of the Effect of Nonuniformity on Shell Conditions in Implosions on the OMEGA Laser," J. A. Delettrez, V. A. Smalyuk, F. J. Marshall, P. B. Radha, and B. Yaakobi, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Spectroscopic Measurements of Fuel–Pusher Mix in Direct-Drive Implosions on OMEGA," S. P. Regan, J. A. Delettrez, F. J. Marshall, J. M. Soures, V. A. Smalyuk, B. Yaakobi, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, C. Stoeckl, R. P. J. Town, D. A. Haynes, C. F. Hooper, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Stimulated Brillouin Sidescatter and Backscatter in NIF-Scale Direct-Drive Plasmas," W. Seka, S. P. Regan, D. D. Meyerhofer, B. Yaakobi, C. Stoeckl, R. S. Craxton, R. W. Short, H. Baldis, J. Fuchs, and C. Labaune, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Streaked X-Ray Imager for Observation of Oscillations of Perturbed Ablation Fronts in Planar ICF Targets During Shock Transit," O. V. Gotchev, V. N. Goncharov, P. A. Jaanimagi, J. P. Knauer, and D. D. Meyerhofer, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Studies of Fuel $\rho R$ on OMEGA from DTH-Gas-Filled Capsules," J. A. Frenje, C. K. Li, F. H. Séguin, S. Kurebayashi, R. D. Petrasso, P. B. Radha, J. M. Soures, D. D. Meyerhofer, V. Yu. Glebov, S. Roberts, C. Stoeckl, and T. C. Sangster, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Tertiary Neutron Measurements by Carbon Activation," V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, C. Sorce, J. M. Soures, C. Stoeckl, S. Padalino, L. Baumgart, R. Colburn, J. Fuschino, and T. C. Sangster, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Two-Dimensional MHD Simulation of Tokamak Plasmas with Poloidal Flow," T. A. Gardiner, R. Betti, and L. Guazzotto, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"Wetted-Foam Target Designs for the NIF," T. J. B. Collins, S. Skupsky, R. Betti, V. N. Goncharov, D. R. Harding, R. L. McCrory, P. W. McKenty, R. P. J. Town, and D. D. Meyerhofer, presented at the 43rd Annual Meeting of the APS Division of Plasma Physics, Long Beach, CA, 29 October–2 November 2001.

"EXAFS Detection of Laser Shock Heating," B. Yaakobi, F. J. Marshall, T. R. Boehly, R. P. J. Town, D. D. Meyerhofer, and W. Seka, presented at Applications of High Field and Short Wavelength Sources IX, Palm Springs, CA, 21–24 October 2001.

"Chiral Transition Metal Dithiolene Dye Complexes and Their Potential Applications in Liquid Crystal Devices," K. L. Marshall, I. A. Lippa, S. Kinsella, M. S. Moore, S. M. Corsello, and A. Ayub, presented at the OSA Annual Meeting and Exhibit 2001, Long Beach, CA, 14–18 October 2001.

"Establishing Links Between Single Gold Nanoparticles Buried Inside $SiO_2$ Thin Film and 351-nm Pulsed Laser Damage Morphology," S. Papernov and A. W. Schmid, presented at the XXXIII Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 1–3 October 2001.

"Charged-Particle Spectroscopy on OMEGA and Recent Results of Capsule Implosion Studies," C. K. Li, F. H. Séguin, J. A. Frenje, S. Kurebayashi, R. D. Petrasso, J. M. Soures, D. D. Meyerhofer, V. Yu. Glebov, P. B. Radha, S. Roberts, W. Seka, C. Stoeckl, and T. C. Sangster, presented at the Second International Conference on Inertial Fusion Sciences and Applications, Kyoto, Japan, 9–14 September 2001.

"Compressed Core Conditions in Direct-Drive Spherical Implosions on OMEGA," P. B. Radha, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. D. Zuegel, J. A. Frenje, C. K. Li, C. K. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, T. W. Phillips, and T. C. Sangster, presented at the Second International Conference on Inertial Fusion Sciences and Applications, Kyoto, Japan, 9–14 September 2001.

"High-Density, Direct-Drive Implosions on OMEGA," S. P. Regan, J. A. Delettrez, B. Yaakobi, V. A. Smalyuk, F. J. Marshall, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, J. M. Soures, C. Stoeckl, R. P. J. Town, D. A. Haynes, Jr., I. E. Golovkin, C. F. Hooper, Jr., J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the Second International Conference on Inertial Fusion Sciences and Applications, Kyoto, Japan, 9–14 September 2001.

"High-Gain Direct-Drive Target Designs for the National Ignition Facility," S. Skupsky, R. Betti, T. J. B. Collins, V. N. Goncharov, D. R. Harding, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, and R. P. J. Town, presented at the Second International Conference on Inertial Fusion Sciences and Applications, Kyoto, Japan, 9–14 September 2001.

"An Integrated Fast Ignitor Experiment for OMEGA," D. D. Meyerhofer, J. H. Kelly, R. P. J. Town, L. J. Waxer, S. J. Loucks, R. L. McCrory, W. Seka, and S. Skupsky, presented at the Second International Conference on Inertial Fusion Sciences and Applications, Kyoto, Japan, 9–14 September 2001.

"OMEGA Direct-Drive Cryogenic Target Physics," R. P. J. Town, J. A. Delettrez, R. Epstein, V. N. Goncharov, C. K. Li, R. L. McCrory, P. W. McKenty, P. B. Radha, S. Skupsky, V. Yu. Glebov, D. R. Harding, D. D. Meyerhofer, F. J. Marshall, R. D. Petrasso, S. P. Regan, F. H. Seguin, W. Seka, V. A. Smalyuk, C. Stoeckl, J. M. Soures, and J. D. Zuegel, presented at the Second International Conference on Inertial Fusion Sciences and Applications, Kyoto, Japan, 9–14 September 2001.

"Core Performance and Mix in Direct-Drive Spherical Implosions on OMEGA," C. Stoeckl, J. A. Delettrez, R. Epstein, V. Yu. Glebov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, T. W. Phillips, and T. C. Sangster, presented at the EuroConference on Advanced Diagnostics for Magnetic and Inertial Fusion, Varenna, Italy, 3–7 September 2001.

"Laser and X-Ray Irradiation Diagnostics That Have Paved the Path to Significantly Improved ICF Target Performance," R. L. Keck, W. R. Donaldson, V. Yu. Glebov, P. A. Jaanimagi, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, W. Seka, C. Stoeckl, and R. Boni, presented at the EuroConference on Advanced Diagnostics for Magnetic and Inertial Fusion, Varenna, Italy, 3–7 September 2001.

"Laser–Plasma Interaction Diagnostics for ICF Fusion Research," W. Seka, R. S. Craxton, R. L. Keck, J. P. Knauer, D. D. Meyerhofer, S. P. Regan, C. Stoeckl, B. Yaakobi, R. E. Bahr, D. Montgomery, H. Baldis, and R. Kirkwood, presented at the EuroConference on Advanced Diagnostics for Magnetic and Inertial Fusion, Varenna, Italy, 3–7 September 2001.

"Exploring Anisotropy in Removal Rate for Single Crystal Sapphire Using MRF," I. A. Kozhinova, S. R. Arrasmith, J. C. Lambropoulos, S. D. Jacobs, and H. J. Romanofsky, presented at SPIE's 46th Annual Meeting, The International Symposium on Optical Science and Technology, San Diego, CA, 29 July–3 August 2001.

"A New Approach to Measuring the Secondary Neutron Energy Spectrum in ICF Implosion," V. Yu. Glebov, C. Stoeckl, and D. D. Meyerhofer, presented at SPIE's 46th Annual Meeting, The International Symposium on Optical Science and Technology, San Diego, CA, 29 July–3 August 2001.

"Quantitative Characterization of Optical Polishing Pitch," J. E. DeGroote, S. D. Jacobs, L. L. Gregg, A. E. Marino, and J. C. Hayes, presented at SPIE's 46th Annual Meeting,

The International Symposium on Optical Science and Technology, San Diego, CA, 29 July–3 August 2001.

"The Use of Magnetorheological Finishing (MRF) to Relieve Residual Stress and Subsurface Damage on Lapped Semiconductor Silicon Wafers," S. R. Arrasmith, S. D. Jacobs, J. C. Lambropoulos, A. Maltsev, D. Golini, and W. I. Kordonski, presented at SPIE's 46th Annual Meeting, The International Symposium on Optical Science and Technology, San Diego, CA, 29 July–3 August 2001.

"Effects of Changes in Fluid Composition on Magnetorheological Finishing (MRF) of Glasses and Crystals," S. D. Jacobs, S. R. Arrasmith, I. A. Kozhinova, S. R. Gorodkin, L. L. Gregg, H. J. Romanofsky, T. D. Bishop, II, A. B. Shorey, and W. I. Kordonski, presented at the 10th International Conference on Precision Engineering (ICPE), Yokohama, Japan, 18–20 July 2001.

"High-Precision-Coating Technology for Large-Aperture NIF Optics," J. B. Oliver, J. D. Howe, A. L. Rigatti, D. J. Smith, and C. Stolz, presented at Optical Interference Coatings, Topical Meeting and Tabletop Exhibit, Banff, Alberta, Canada, 15–20 July 2001.

"Real-Time Characterization and Optimization of *E*-Beam Evaporated Optical Coatings," A. V. Tikhonravov, M. K. Trubetskov, I. V. Kockikov, J. B. Oliver, and D. J. Smith, presented at Optical Interference Coatings, Topical Meeting and Tabletop Exhibit, Banff, Alberta, Canada, 15–20 July 2001.

"Alignment, Vibration, and Shroud Retraction: Initial Performance of the OMEGA Cryogenic Target Handling System," L. D. Lund, D. R. Harding, D. J. Lonobile, D. Jacobs-Perkins, and T. Hinterman, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"CFD Modeling of Temperature/Pressure Gradients While Cooling Thin-Walled Direct-Drive Capsules," E. L. Alfonso, R. Q. Gram, and D. R. Harding, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Cryogenic-Target Experiments on OMEGA," D. D. Meyerhofer, C. Chiritescu, T. J. B. Collins, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, R. L. Keck, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, F. J. Marshall, S. F. B. Morse, S. P. Regan, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, C. Padalino, C. Freeman, N. Izumi, R. Lerche, T. W. Phillips, and T. C. Sangster, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Effects of Processing Conditions on the Quality and Properties of Vapor-Deposited Polyimide Shells," F.-Y. Tsai, E. L. Alfonso, S. H. Chen, D. R. Harding, and T. N. Blanton, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Filling and Cooling Thin-Walled Cryogenic Targets," R. Q. Gram and D. R. Harding, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Layering and Characterization of Solid-Deuterium Fuel Layers in Permeation-Filled Cryogenic Targets for OMEGA," M. D. Wittman, D. R. Harding, P. W. McKenty, H. Huang, L. S. Iwan, T. J. Kessler, L. Elasky, and J. Sailer, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"The Role of Improved Target Surface Roughness in Recent OMEGA Gas-Filled Implosion Experiments," P. W. McKenty, C. Stoeckl, V. N. Goncharov, M. J. Bonino, V. Yu. Glebov, D. R. Harding, D. D. Meyerhofer, and R. L. McCrory, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Target Fabrication Techniques at LLE," S. G. Noyes, M. J. Bonino, D. Turner, J. Tidu, and D. R. Harding, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Wetted-Foam Target Designs for the NIF and OMEGA," S. Skupsky, R. Betti, V. N. Goncharov, R. L. McCrory, P. W. McKenty, R. P. J. Town, D. D. Meyerhofer, and D. R. Harding, presented at the 14th Target Fabrication Meeting, West Point, NY, 15–19 July 2001.

"Effect of SnO on Chemical Durability of Phosphate Glasses," G. Chen, Y. Du, A. Marino, L. L. Gregg, S. R. Arrasmith, and S. D. Jacobs, presented at the International Congress on Glass ICG 2001, Edinburgh, Scotland, 2–6 July 2001.

"Efficient Operation of the Cryogenic Target Production and Handling System for OMEGA at the University of Rochester," M. D. Wittman and D. R. Harding, presented at the Third Operations Workshop, Bordeaux, France, 26–28 June 2001.

"Integration of Cryogenic Target Capabilities into OMEGA Operations," T. H. Hinterman, presented at the Third Operations Workshop, Bordeaux, France, 26–28 June 2001.

"Management of the Integration and Qualification of New Equipment on OMEGA," G. Pien, presented at the Third Operations Workshop, Bordeaux, France, 26–28 June 2001.

"OMEGA Actual RAM Analysis," S. F. B. Morse, presented at the Third Operations Workshop, Bordeaux, France, 26–28 June 2001.

"OMEGA Capability, Availability, and Effectiveness Improvements," S. J. Loucks, presented at the Third Operations Workshop, Bordeaux, France, 26–28 June 2001.

"Measurements of Shock Heating in Laser-Driven Targets," T. R. Boehly, B. Yaakobi, J. P. Knauer, D. D. Meyerhofer, and R. P. J. Town, presented at the 12th Biennial

International Conference of the APS Topical Group on Shock Compression of Condensed Matter, Atlanta, GA, 24–29 June 2001.

"An Integrated Fast Ignitor Experiment for OMEGA," D. D. Meyerhofer, J. H. Kelly, R. P. J. Town, L. J. Waxer, S. J. Loucks, R. L. McCrory, W. Seka, and S. Skupsky, presented at the 5th Workshop on Fast Ignitor of Fusion Targets, Madeira, Portugal, 18–22 June 2001.

"Inferences of Mix in Direct-Drive Spherical Implosions with High Uniformity," D. D. Meyerhofer, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. A. Lerche, T. W. Phillips, and T. C. Sangster, presented at the 28th EPS Conference on Controlled Fusion and Plasma Physics, Madeira, Portugal, 18–22 June 2001.

"Core Performance in Direct-Drive Spherical Implosions on OMEGA," R. L. McCrory, J. A. Delettrez, R. Epstein, V. Yu. Glebov, R. L. Keck, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. D. Zuegel, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, T. W. Phillips, and T. C. Sangster, presented at Pulsed Power Plasma Science 2001, Las Vegas, NV, 17–22 June 2001.

"A Comparison of Monotone Schemes of High-Order Accuracy for Hyperbolic Problems," Y. A. Kholodov, presented at the First M. I. T. Conference on Computational Fluid and Solid Mechanics, Cambridge, MA, 12–15 June 2001.

"Core-Mix Measurements of Direct-Drive Implosions on OMEGA," S. P. Regan, J. A. Delettrez, V. A. Smalyuk, B. Yaakobi, F. J. Marshall, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, J. M. Soures, C. Stoeckl, R. P. J. Town, D. A. Haynes, Jr., C. F. Hooper, Jr., C. K. Li, R. D. Petrasso, and F. H. Séguin, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Current Status of Tertiary Neutron Diagnostic by Carbon Activation," V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, J. M. Soures, C. Stoeckl, S. Padalino, L. Baumgart, R. Colburn, J. Fuschino, and T. C. Sangster, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Damping and Spatial Propagation of Oscillations in Weakly Collisional Plasma," A. Simon and R. W. Short, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Design of Long-Scale-Length Plasmas for Interaction Physics Experiments on OMEGA," R. S. Craxton, D. D. Meyerhofer, W. Seka, R. W. Short, and R. P. J. Town, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Electron Thermal Conduction in Inertial Confinement Fusion," A. Sunahara, J. A. Delettrez, R. W. Short, and S. Skupsky, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Hydrodynamic Stability of Moderate- to High-Gain Direct-Drive Target Designs for the NIF," V. N. Goncharov, S. Skupsky, R. Betti, J. A. Marozas, P. W. McKenty, and R. P. J. Town, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Measurements on the Two-Plasmon-Decay Instability on OMEGA," C. Stoeckl, R. E. Bahr, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, R. W. Short, and B. Yaakobi, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Multibeam SBS Interaction Experiments in OMEGA Long-Scale-Length Plasmas," W. Seka, S. P. Regan, D. D. Meyerhofer, B. Yaakobi, C. Stoeckl, R. S. Craxton, R. W. Short, H. Baldis, and J. Fuchs, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged-Particle Yield from Laser-Driven Implosions Experiments," R. Epstein, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, P. W. McKenty, P. B. Radha, S. Skupsky, V. A. Smalyuk, and C. Stoeckl, 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Precision One-Dimensional *LILAC* Simulations of CH-Shell Implosions on the OMEGA Laser," J. A. Delettrez, C. Stoeckl, S. P. Regan, P. W. McKenty, D. D. Meyerhofer, and J. P. Knauer, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Theoretical Interpretation of SBS Observations in OMEGA Long-Scale-Length Plasma Experiments," R. W. Short, R. S. Craxton, W. Seka, and D. D. Meyerhofer, presented at the 31st Anomalous Absorption Conference, Sedona, AZ, 3–8 June 2001.

"Polymer Cholesteric Liquid Crystal Flakes for Display and Other Electro-Optic Applications," T. Z. Kosc, K. L. Marshall, S. D. Jacobs, and B. Klehn, presented at Novel Optical Materials and Applications, Cetraro, Italy, 20–27 May 2001.

"Obtaining UV Energy Balance with 1-THz Spectral Bandwidth on the 60-Beam OMEGA Laser," M. J. Guardalben, A. Babushkin, R. S. Craxton, R. L. Keck, W. R. Donaldson, and K. A. Thorp, presented at the Conference on Lasers and Electro-Optics, Baltimore, MD, 6–11 May 2001.

"Predicting and Measuring Optical Pulse Shapes on the OMEGA Laser System," W. R. Donaldson, J. H. Kelly, R. L. Keck, and R. Boni, presented at the Conference on Lasers and Electro-Optics, Baltimore, MD, 6–11 May 2001.

"Comparison of a Liquid Crystal Point Diffraction Interferometer (LCPDI) and a Commercial Phase-Shifting Interferometer," M. J. Guardalben, L. Ning, N. Jain, D. J. Battaglia, and K. L. Marshall, presented at the Northeast Regional Meeting on Optoelectronics, Photonics, and Imaging, Rochester, NY, 10–11 April 2001.

"Optical Properties of a Dual Diffusing Sphere Fiber Optic Detector," J.-R. Park, W. R. Donaldson, R. Boni, and R. Sobolewski, presented at the Northeast Regional Meeting on Optoelectronics, Photonics, and Imaging, Rochester, NY, 10–11 April 2001.

"The Optics Suitcase-A Tool for Learning," L. L. Gregg and S. D. Jacobs, presented at the Northeast Regional Meeting on Optoelectronics, Photonics, and Imaging, Rochester, NY, 10–11 April 2001.

"Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. H. Kelly, J. P. Knauer, S. J. Loucks, L. D. Lund, J. A. Marozas, P. W. McKenty, F. J. Marshall, S. F. B. Morse, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, and T. C. Sangster, presented at the 4th Symposium on Current Trends in International Fusion Research: A Review, Washington, DC, 12–16 March 2001.

"Multibeam Interaction Experiments Under Direct-Drive NIF Conditions," W. Seka, S. P. Regan, D. D. Meyerhofer, B. Yaakobi, C. Stoeckl, R. S. Craxton, R. W. Short, H. A. Baldis, and J. Fuchs, presented at the 4th International Workshop on Laser-Plasma Interaction Physics, Banff, Alberta, Canada, 21–24 February 2001.

"Spectral Sculpting for NIF Demonstration Project," L. Waxer and J. Kelly, presented at the Third Annual Joint US-JAPAN Workshop On Laser-Driven Inertial Fusion Energy (IFE), Livermore, CA, 25–27 January 2001.

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"Characterization of Direct-Drive-Implosion Core Conditions on OMEGA with Time-Resolved Ar K-Shell Spectroscopy," S. P. Regan, J. A. Delettrez, B. Yaakobi, V. A. Smalyuk, F. J. Marshall, D. D. Meyerhofer, W. Seka, D. A. Haynes, Jr., and C. F. Hooper, Jr., presented at Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 30 October–3 November 2000.

"Analysis of a Direct-Drive Ignition Capsule Designed for the NIF," P. W. McKenty, V. N. Goncharov, R. P. J. Town, S. Skupsky, R. Betti, and R. L. McCrory, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Beam Power Matching on the OMEGA Laser," R. L. Keck, W. R. Donaldson, P. A. Jaanimagi, W. Seka, and R. Boni, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Charged-Particle Acceleration and Energy Loss Measurements on OMEGA," D. G. Hicks, C. K. Li, F. H. Séguin, A. K. Ram, J. A. Frenje, R. D. Petrasso, J. M. Soures, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, C. Sorce, C. Stoeckl, T. C. Sangster, and T. W. Phillips, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Comparison of Neutron Burn History Measurements with One- and Two-Dimensional Hydrodynamic Simulations," C. Stoeckl, J. A. Delettrez, V. Yu Glebov, P. W. McKenty, and D. D. Meyerhofer, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Core Performance and Mix in Direct-Drive Spherical Implosions with High Uniformity," D. D. Meyerhofer, J. A. Delettrez, R. Epstein, V. Yu Glebov, V. N. Goncharov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, C. Sorce, R. P. J. Town, B. Yaakobi, J. D. Zuegel, R. D. Petrasso, S. Padalino, J. A. Frenje, D. G. Hicks, F. H. Séguin, C. K. Li, N. Izumi, R. Lerche, T. C. Sangster, and T. W. Phillips, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000 (invited).

"The Effect of Elevated Internal Gas Pressure on Direct-Drive Cryogenic Target Performance," R. P. J. Town, J. A. Delettrez, V. N. Goncharov, D. R. Harding, P. W. McKenty, and R. L. McCrory, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"The Effect of Weak Collisions on Plasma Oscillations," A. Simon, R. W. Short, R. Betti, and V. N. Goncharov, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"The Effects of Beam-Intensity Structure on Two-Plasmon Decay in Direct-Drive Laser Fusion Targets," R. W. Short, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Growth Rates of the Deceleration-Phase Rayleigh–Taylor Instability," V. Lobatchev, M. Umansky, and R. Betti, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"A High-Throughput, High-Resolution, Streaked Kirkpatrick–Baez Microscope for Planar Direct-Drive Experiments on OMEGA," O. V. Gotchev, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, and D. D. Meyerhofer, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Imprint Reduction with Shaped Pulses," T. J. B. Collins and S. Skupsky, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Laser-Driven Burnthrough Experiments on OMEGA with 1-THz SSD," S. P. Regan, J. A. Delettrez, B. Yaakobi, R. Epstein, D. D. Meyerhofer, W. Seka, P. B. Radha, and R. P. J. Town, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Measured Reduction of RT Growth at the Ablation Interface by Modification of the Isentrope," J. P. Knauer, R. Betti, T. R. Boehly, T. J. B. Collins, D. D. Meyerhofer, R. P. J. Town, and V. A. Smalyuk, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"A Measurement-Based Picture of Core Conditions in OMEGA Implosions," P. B. Radha, V. Yu. Glebov, F. J. Marshall, D. D. Meyerhofer, R. D. Petrasso, S. P. Regan, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, and B. Yaakobi, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Measurement of Secondary Neutron Yield by Copper Activation," V. Yu. Glebov, D. D. Meyerhofer, and C. Stoeckl, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Measurements of Areal Densities and Temperatures from DT Capsule Implosions on OMEGA," C. K. Li, D. G. Hicks, F. H. Séguin, J. A. Frenje, K. M. Green, R. D. Petrasso, J. M. Soures, D. D. Meyerhofer, V. Yu. Glebov, C. Stoeckl, S. Roberts, T. C. Sangster, and T. W. Phillips, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Measurements of Shock Heating Al Absorption Spectroscopy in Planar Targets," T. R. Boehly, B. Yaakobi, J. P. Knauer, D. D. Meyerhofer, R. P. J. Town, D. Hoarty, and O. Willi, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Modeling Planar Burnthrough and Adiabat Experiments Using *DRACO*," D. Keller, T. J. B. Collins, J. A. Delettrez, R. Epstein, P. W. McKenty, P. B. Radha, R. P. J. Town, G. A. Moses, P. P. H. Wilson, and J. J. MacFarlane, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Monochromatic Imaging of Direct-Drive Implosions on OMEGA," F. J. Marshall, J. A. Delettrez, D. D. Meyerhofer, T. A. Ohki, S. P. Regen, V. A. Smalyuk, B. Yaakobi, and J. A. Oertel, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"A Neutron Spectrometer for Precise Measurements of DT Neutrons from 10 to 18 Me V at OMEGA and the National Ignition Facility," J. A. Frenje, K. M. Green, D. G. Hicks, C. K. Li, F. H. Séguin, R. D. Petrasso, T. C. Sangster, T. W. Phillips, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, J. M. Soures, C. Stoeckl, K. Fletcher, and S. Padalino, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"A New Model for the Analysis of Burnthrough Experiments on OMEGA," J. A. Delettrez, S. P. Regan, P. B. Radha, and R. P. J. Town, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Nonlinear Sound Waves in Two-Ion Plasmas," M. V. Kozlov and C. J. McKinstrie, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Numerical Simulations of the SSD- and DPP-Smoothed Laser Beam Filamentation and Forward Stimulated Brillouin Scattering in Plasmas," A. V. Kanaev and C. J. McKinstrie, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Optical and Plasma Smoothing of Laser Imprinting in Targets Driven by Lasers with SSD Bandwidths Up to 1 THz," T. R. Boehly, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000 (invited).

"Propagation of Plasma Waves in Weakly Collisional Plasmas," R. W. Short and A. Simon, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"SBS from Fast and Slow Waves in Two-Ion Plasmas," C. J. McKinstrie and M. V. Kozlov, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Secondary-Proton Spectra from $D_2$-Filled OMEGA Targets," F. H. Séguin, J. A. Frenje, C. K. Li, D. G. Hicks, K. M. Green, R. D. Petrasso, V. Yu. Glebov, C. Stoeckl, P. B. Radha, J. M. Soures, D. D. Meyerhofer, S. Roberts, C. Sorce, T. C. Sangster, M. D. Cable, S. Padalino, and K. Fletcher, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"The Smoothing Performance of Various Picket-Fence Schemes on NIF," J. A. Marozas and J. D. Zuegel, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Stability of the Resistive Wall Mode in the Presence of Moving Walls," M. Umansky, J. P. Freidberg, and R. Betti, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Stimulated Brillouin Scattering in Very Long Velocity Scale-Length NIF Plasmas," W. Seka, D. D. Meyerhofer, R. S. Craxton, S. P. Regan, R. E. Bahr, R. W. Short, B. Yaakobi, J. Fuchs, D. Montgomery, and B. Afeyan, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Theory of the Deceleration-Phase Rayleigh–Taylor Instability," R. Betti, M. Umansky, and V. Lobatchev, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Time-Resolved Measurements of Compressed Shell Temperature and Areal Density with Titanium-Doped Targets on OMEGA," V. A. Smalyuk, J. A. Delettrez, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, R. P. J. Town, and B. Yaakobi, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Two-Dimensional Hydrodynamic Simulations of SSD Laser Imprint," R. S. Craxton, J. A. Marozas, and S. Skupsky, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Two-Dimensional Simulations of X-Ray Absorption Spectra from Nonuniformly Driven Planar Targets," R. Epstein, J. A. Delettrez, P. B. Radha, T. R. Boehly, S. P. Regan, B. Yaakobi, and J. J. MacFarlane, presented at the 42nd Annual Meeting of the APS Division of Plasma Physics, Quebec City, Canada, 23–27 October 2000.

"Device Applications of Highly Soluble Near-Infrared Transition Metal Dyes in Liquid Crystal Hosts," K. L. Marshall, M. J. Guardalben, S. M. Corsello, M. S. Moore, I. A. Lippa, and R. P. Brecker, 16th Interdisciplinary Laser Science Conference (ILS-XVI), Providence, RI, 22–26 October 2000.

"Investigation of Error Sources in the Liquid Crystal Point Diffraction Interferometer (LCPDI)," M. J. Guardalben, L. Ning, N. Jain, and D. J. Battaglia, presented at the 16th Interdisciplinary Laser Science Conference (ILS-XVI), Providence, RI, 22–26 October 2000.

"Polymer Liquid Crystal Flakes for Switchable Optical Devices," T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, presented at the 16th Interdisciplinary Laser Science Conference (ILS-XVI), Providence, RI, 22–26 October 2000.

"Safely Operating a Large-Scale Laser Facility for Fusion Research," J. H. Kelly, A. Babushkin, R. Boni, W. R. Donaldson, P. A. Jaanimagi, R. L. Keck, R. L. McCrory, S. F. B. Morse, A. V. Okishev, R. G. Peck, R. G. Roides, W. Seka, M. D. Skeldon, and K. A. Thorp, presented at the 16th Interdisciplinary Laser Science Conference (ILS-XVI), Providence, RI, 22–26 October 2000.

"Functional Damage Thresholds of Hafnia/Silica Coating Designs for the NIF Laser," J. Taniguchi, N, LeBarron, J. Howe, D. Smith, C. Stolz, C. Weinzapfel, and J. Kimmons, presented at the Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 16–18 October 2000.

"Moisture Barrier Coatings to Prevent Environmental Degradation of KDP Crystals," A. L. Rigatti, D. J. Smith, G. L. Mitchell, J. Dirmyer, A. W. Schmid, and S. Papernov, presented at the Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 16–18 October 2000.

"The Use of Hafnia/Silica Multilayer Coatings on Large Mirrors and Polarizes for the National Ignition Facility," D. J. Smith, J. B. Oliver, J. Howe, C. Stolz, and A. Rigatti, presented at the Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 16–18 October 2000.

"Using Colloidal Gold Nanoparticles for Studies of Laser Interaction with Defects in Thin Films," S. Papernov, A. W. Schmid, R. Krishnan, and L. Tsybeskov, presented at the Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 16–18 October 2000.

"High-Energy Solid-State Lasers for ICF Applications," A. V. Okishev, A. Babushkin, R. E. Bahr, T. R. Boehly, R. Boni, R. S. Craxton, W. R. Donaldson, M. J. Guardalben, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, S. A. Letzring, S. J. Loucks, F. J. Marshall, R. L. McCrory, S. F. B. Morse, R. G. Roides, T. A. Safford, W. Seka, M. J. Shoup, III, M. D. Skeldon, S. Skupsky, J. M. Soures, K. A. Thorp, and J. D. Zuegel, presented at the International Congress Optics-XXI Century, St. Petersburg, Russia, 16–18 October 2000.

"OMEGA ICF Experiments and Preparation for Direct-Drive Ignition on NIF," R. L. McCrory, R. E. Bahr, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, O. V. Gotchev, R. Q. Gram, D. R. Harding, D. G. Hicks, P. A. Jaanimagi, R. L. Keck, J. Kelly, J. P. Knauer, C. K. Li, S. J. Loucks, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, R. D. Petrasso, P. B. Radha, S. P. Regan, S. Roberts, F. Séguin, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, C. Stoeckl, R. P. J. Town, M. D. Wittman, B. Yaakobi, and J. D. Zuegel, presented at the 18th IAEA Fusion Energy Conference, Sorrento, Italy, 4–10 October 2000.

"Magnetorheological Finishing of Optics," S. D. Jacobs, presented at the ASME International Joint Tribology Conference, Seattle, WA, 1–4 October 2000.

"Experiments and Simulations of Subpicosecond SFQ Pulse Propagation in Y-Ba-Cu-O Josephson Transmission Lines," R. Adam, M. Darula, C. Williams, R. Sobolewski, presented at the Applied Superconductivity Conference (ASC), Virginia Beach, VA, 17–22 September 2000.

"Fabrication and Properties of an Ultrafast NbN Hot-Electron Single-Photon Detector," G. Gol'tsman, O. Okunev, G. Chulkova, A. Lipatov, A. Dzardanov, K. Smirnov, A. Semenov, B. Voronov, C. Williams, and R. Sobolewski, presented at the Applied Superconductivity Conference (ASC), Virginia Beach, VA, 17–22 September 2000.

"Ultrafast YBCO Photodetector Based on the Kinetic-Inductive Process," C. Williams, Y. Xu, R. Adam, M. Darula, O. Harnack, J. Scherbel, M. Siegel, F. A. Hegmann, and R. Sobolewski, presented at the Applied Superconductivity Conference (ASC), Virginia Beach, VA, 17–22 September 2000.

"Cooled and Uncooled Infrared Detectors Based on Yttrium Barium Copper Oxide," R. Sobolewski, D. P. Butler, and Z. Celik-Butler, presented at the Baltic States Conference on Advanced Optical Materials (ADOM-2), Vilnius, Lithuania, 16–19 August 2000.

"A New High-Bandwidth, All Solid-State Pulse-Shaping System for the OMEGA Laser Facility," A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, presented at Laser Optics 2000, St. Petersburg, Russia, 26–30 June 2000.

"Unique High-Bandwidth, UV Fiber Delivery System for the OMEGA Diagnostic Applications," A. V. Okishev, R. Boni, M. Millecchia, P. A. Jaanimagi, W. R. Donaldson, R. L. Keck, W. Seka, K. V. Dukelsky, M. A. Eronyan, V. S. Shevandin, G. M. Ermolaeva, G. E. Nikolaev, and V. B. Shilov, presented at Laser Optics 2000, St. Petersburg, Russia, 26–30 June 2000.

"Diagnostic Use of Secondary Proton Spectra for D2-Filled Inertial Confinement Fusion Targets," F. H. Séguin, C. K. Li, D. G. Hicks, J. A. Frenje, R. D. Petrasso, J. M. Soures, V. Yu. Glebov, C. Stoeckl, P. B. Radha, D. D. Meyerhofer, S. Roberts, C. Sorce, T. C. Sangster, M. D. Cable, S. Padalino, and K. Fletcher, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Fourier-Space Image Processing for Spherical Experiments on OMEGA," V. A. Smalyuk, T. R. Boehly, L. S. Iwan, T. J. Kessler, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, C. Stoeckl, B. Yaakobi, and D. K. Bradley, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Hard X-Ray Detectors for OMEGA and NIF," C. Stoeckl, V. Yu Glebov, D. D. Meyerhofer, W. Seka, B. Yaakobi, R. P. J. Town, and J. D. Zuegel, presented at the

13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Imaging of Laser-Plasma X-Ray Emission with Charge Injection Devices (CID)," F. J. Marshall, T. A. Ohki, D. McInnis, Z. Ninkov, and J. Carbone, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Measurements of Shock Heating Using Al Absorption Spectroscopy in Planar Targets," T. R. Boehly, B. Yaakobi, D. Hoarty, J. P. Knauer, D. D. Meyerhofer, R. P. J. Town, R. E. Bahr, and M. Millecchia, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Measuring Fusion Yields, Areal Densities, and Ion Temperatures of Imploded Capsules at OMEGA," C. K. Li, D. G. Hicks, F. H. Séguin, J. Frenje, R. D. Petrasso, J. M. Soures, P. B. Radha, V. Yu. Glebov, C. Stoeckl, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, S. Skupsky, S. Roberts, C. Sorce, T. C. Sangster, T. W. Phillips, and M. D. Cable, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Neutron-Induced Background in Charge-Coupled Device Detectors," P. A. Jaanimagi, R. Boni, and R. L. Keck, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Secondary Neutron Yield Measurements by Current Mode Detectors," V. Yu. Glebov, D. D. Meyerhofer, C. Stoeckl, and J. D. Zuegel, presented at the 13th Topical Conference on High Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000.

"Corrosion in Aqueous Cerium Oxide Magnetorheological Fluids," I. Kozhinova, S. Jacobs, S. Arrasmith, and L. Gregg, presented at Optical Fabrication and Testing, Quebec City, Canada, 18–22 June 2000.

"Magnetorheological Finishing: New Fluids for New Materials," S. D. Jacobs and A. B. Shorey, presented at Optical Fabrication and Testing, Quebec City, Canada, 18–22 June 2000.

"Nanohardness of Abrasive Particles Used in Magnetorheological Finishing (MRF)," A. B. Shorey and S. D. Jacobs, presented at Optical Fabrication and Testing, Quebec City, Canada, 18–22 June 2000.

"Measurement of Preheat Due to Fast Electrons in Laser Implosions," R. S. Craxton, B. Yaakobi, C. Stoeckl, T. R. Boehly, D. D. Meyerhofer, and W. Seka, presented at the 26th European Conference on Laser Interaction with Matter, Prague, Czech Republic, 12–16 June 2000.

"OMEGA Experiments and Preparation for Direct-Drive Ignition on NIF," S. Skupsky, R. L. McCrory, R. E. Bahr, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, V. N. Goncharov, R. Q. Gram, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. P. Knauer, S. J. Loucks, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, O. V. Gotchev, P. B. Radha, S. P. Regan, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, M. D. Wittman, B. Yaakobi, J. D. Zuegel, R. D. Petrasso, C. K. Li, and J. A. Frenje, D. G. Hicks, F. H. Séguin, presented at the 26th European Conference on Laser Interaction with Matter, Prague, Czech Republic, 12–16 June 2000.

"Generation of Collimated Flows by Intense Laser Irradiation with Applications to Astrophysical Phenomena," J. P. Knauer, T. J. B. Collins, A. Frank, and E. Blackman, presented at the 196th Meeting of the American Astronomical Society, Rochester, NY, 4–8 June 2000.

"Measurements of Shock Heating Using Al Absorption Spectroscopy in Planar Targets," T. R. Boehly, B. Yaakobi, D. Hoarty, J. P. Knauer, D. D. Meyerhofer, R. P. J. Town, R. E. Bahr, and M. Millecchia, presented at the International Workshop on Warm Dense Matter, Vancouver, B.C., Canada, 29–31 May 2000.

"*DRACO*—A Multidimensional Hydrocode for ICF," P. B. Radha, T. J. B. Collins, J. A. Delettrez, D. Keller, P. W. McKenty, and R. P. J. Town, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"The Effects of Beam Intensity Structure on Two-Plasmon Decay in Direct-Drive Fusion Targets," R. W. Short, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Hydrodynamic Instabilities from the Beginning to the End," R. Betti, J. P. Knauer, V. Lobatchev, and M. Umanski, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Laser-Driven Burnthrough Experiments on OMEGA," S. P. Regan, J. A. Delettrez, B. Yaakobi, R. Epstein, D. K. Bradley, D. D. Meyerhofer, and W. Seka, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Numerical Simulations of the SSD-Smoothed Laser Beam Filamentation and Forward SBS in Plasmas," A. V. Kanaev and C. J. McKinstrie, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Numerical Study of Deceleration-Phase Rayleigh–Taylor Instability," V. Lobatchev, R. Betti, and M. Umanski, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged Particle Spectra from Laser-Driven Implosion Experiments," R. Epstein, J. A. Delettrez,

V. Yu. Glebov, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Optical and X-Ray Signatures from the Two-Plasmon Decay Instability on OMEGA," C. Stoeckl, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, B. Yaakobi, and J. D. Zuegel, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Results of Two-Dimensional Simulations of Implosions of DD-filled CH Shell Targets on the OMEGA Laser," J. A. Delettrez, V. Smalyuk, B. Yaakobi, and D. D. Meyerhofer, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Two-Dimensional Simulations of Cryogenic Deuterium Foil Acceleration for NIF Instability Experiments," R. S. Craxton, J. P. Knauer, and R. P. J. Town, presented at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000.

"Characterization of Frequency-Conversion Crystals for the Implementation of a 1-THz Bandwidth on the OMEGA Laser," A. Babushkin, M. J. Guardalben, R. S. Craxton, P. Adamson, H. Ammenheuser, R. L. Keck, and W. Seka, presented at CLEO/ QELS 2000, San Francisco, CA, 7–12 May 2000.

"Measurements of the Optical Contrast on OMEGA: a 60-Beam, 30-kJ UV Fusion Laser," T. R. Boehly, D. D. Meyerhofer, Y. Fisher, W. Seka, and D. K. Bradley, presented at CLEO/QELS 2000, San Francisco, CA, 7–12 May 2000.

"A Unique High-Bandwidth, Multimode UV Optical Fiber: Manufacturing, Testing, and Laser-Fusion Applications," A. V. Okishev, R. Boni, M. Millecchia, B. Kubera, P. A. Jaanimagi, W. R. Donaldson, R. L. Keck, W. Seka, K. V. Dukelsky, M. A. Eronyan, G. A. Shevandin, and G. A. Ermolaev, presented at CLEO/QELS 2000, San Francisco, CA, 7–12 May 2000.

"Subpicosecond Dynamics of the Switching Process in Y-Ba-Cu-O Josephson Junctions," R. Adam, R. Sobolewski, and M. Darula, presented at SPIE's 14th Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls, Orlando, FL, 24–28 April 2000.

"Generation of Collimated Flows by Intense Irradiation with Applications to Astrophysical Phenomena," J. P. Knauer, T. J. B. Collins, A. Frank, and E. Blackman, presented at the 3rd International Conference on Laboratory Astrophysics with Intense Lasers, Houston, TX, 30 March–1 April 2000.

"Spectroscopic Analysis of Electron Temperature in Laser-Driven Burnthrough Experiments," S. P. Regan, J. A. Delettrez, B. Yaakobi, D. K. Bradley, R. E. Bahr,

M. Millecchia, D. D. Meyerhofer, and W. Seka, presented at the 12th APS Topical Conference on Atomic Processes in Plasmas, Reno, NV, 19–23 March 2000.

"X-Ray Spectroscopic Measurements of Areal Density and Modulations in Areal Density of Cold Compressed Shells in Implosion Experiments on OMEGA," V. A. Smalyuk, B. Yaakobi, F. J. Marshall, and D. D. Meyerhofer, presented at the 12th APS Topical Conference on Atomic Processes in Plasmas, Reno, NV, 19–23 March 2000.

"Revealing Hardness Variations in Optical Polishing Abrasives," A. B. Shorey, K. M. Kwong, and S. D Jacobs, presented at the MTS Nano Instrument Users' Meeting, Albany, NY, 22 February 2000.

"All-Solid-State Optical Pulse Shaper for the OMEGA Laser Fusion Facility," A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, presented at Advanced Solid State Lasers 15th Topical Meeting, Davos, Switzerland 13–16 February 2000.

"Three-Dimensional Modeling of Capsule Implosions in OMEGA Tetrahedral Hohlraums," J. D. Schnittman and R. S. Craxton, Israel Plasma Science Technology Association, Beer Sheva, Israel, 9 February 2000.

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"Burnthrough Experiments on OMEGA to Study Effects of Laser Irradiation Uniformity and Shinethrough Layers on Spherical Target Performance," S. P. Regan, J. A. Delettrez, D. K. Bradley, V. Yu. Glebov, D. D. Meyerhofer, and C. Stoeckl, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Characterization of an X-Ray Radiographic System for Measuring the Evolution of Broadband Imprint in Laser-Driven Planar Targets," O. V. Gotchev, J. P. Knauer, D. D. Meyerhofer, and V. A. Smalyuk, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Charged-Particle Spectra Using Particle Tracking on a Two-Dimensional Grid," P. B. Radha, S. Cremer, J. A. Delettrez, R. Epstein, R. D. Petrasso, S. Skupsky, and J. M. Soures, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Diagnostic Use of Secondary $D^3He$ Proton Spectra for D-D OMEGA Targets," F. H. Séguin, R. D. Petrasso, C. K. Li, D. G. Hicks, J. M. Soures, P. B. Radha, V. Yu. Glebov, F. J. Marshall, D. D. Meyerhofer, C. Stoeckl, S. Roberts, C. Sorce, T. C. Sangster, T. W. Phillips, M. D. Cable, S. Padalino, and K. Fletcher, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Direct-Drive, High-Convergence-Ratio Implosion Studies on the OMEGA Laser System," F. J. Marshall, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, C. K. Li, F. H. Séguin, D. G. Hicks, and R. D. Petrasso, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"*DRACO*—A New Multidimensional Hydrocode," D. Keller, T. J. B. Collins, J. A. Delettrez, P. W. McKenty, P. B. Radha, R. P. J. Town, B. Whitney, and G. A. Moses, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Effect of Beam Smoothing and Pulse Shape on the Implosion of DD-Filled CH Shell Targets on OMEGA," J. A. Delettrez, V. Yu. Glebov, F. J. Marshall, C. Stoeckl, B. Yaakobi, and D. D. Meyerhofer, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"The Effects of Pulse Shaping on Imprint," T. J. B. Collins and S. Skupsky, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Evidence for Fuel–Pusher Mixing in OMEGA Direct-Drive Implosions by Neutron Diagnostic," V. Yu. Glebov, J. A. Delettrez, R. Epstein, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, V. A. Smalyuk, and C. Stoeckl, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Feed-out of Rear-Surface Perturbations to the Ablation Interface and Subsequent Growth," J. P. Knauer, R. Betti, T. R. Boehly, V. N. Goncharov, D. D. Meyerhofer, and R. P. J. Town, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Imaging of Compressed Pure CH Shells and CH Shells with Titanium-Doped Layers on OMEGA," V. A. Smalyuk, B. Yaakobi, V. N. Goncharov, J. A. Delettrez, F. J. Marshall, and D. D. Meyerhofer, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Interaction Experiments Under Direct-Drive NIF Conditions," W. Seka, D. D. Meyerhofer, S. P. Regan, B. Yaakobi, R. E. Bahr, R. S. Craxton, R. W. Short, and A. Simon, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Measurement of Accelerated Ions from OMEGA Targets," D. G. Hicks, C. K. Li, F. H. Séguin, R. D. Petrasso, J. M. Soures, C. Stoeckl, J. P. Knauer, D. D. Meyerhofer, W. Seka, R. W. Short, A. Simon, T. W. Phillips, T. C. Sangster, and M. D. Cable, presented

at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Measurements of Hard X-Ray Emission from Laser-Plasma Instabilities on OMEGA," C. Stoeckl, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, V. A. Smalyuk, S. Sublett, and J. D. Zuegel, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Measurements of Laser Imprinting on the OMEGA Laser System," T. R. Boehly, O. Gotchev, V. N. Goncharov, J. P. Knauer, D. D. Meyerhofer, S. Skupsky, V. A. Smalyuk, R. P. J. Town, Y. Srebro, and D. Shvarts, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"A Model of Laser Imprinting," V. N. Goncharov, S. Skupsky, T. R. Boehly, J. P. Knauer, P. W. McKenty, V. A. Smalyuk, R. P. J. Town, O. V. Gotchev, R. Betti, and D. D. Meyerhofer, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Neutron-Induced Background in CCD Detectors," P. A. Jaanimagi, R. Boni, and R. L. Keck, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Numerical Simulation of Sound-Wave Generation in a Two-Ion Plasma," M. V. Kozlov and C. J. McKinstrie, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Numerical Study of Feed-out of Short-Wavelength Rear-Surface Perturbations in Planar Targets," V. Lobatchev and R. Betti, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Numerical Two-Dimensional Studies of Near-Forward Stimulated Brillouin Scattering of Laser Beams in Plasmas," A. V. Kanaev and C. J. McKinstrie, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"OMEGA Cryogenic Target Design," R. P. J. Town, J. A. Delettrez, R. Epstein, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"The OMEGA Cryogenic Target-Handling System," D. R. Harding, L. D. Lund, S. J. Loucks, D. J. Lonobile, R. Q. Gram, M. D. Wittman, M. J. Shoup, III, G. Gerspacher, U. Kamal, L. Folnsbee, A. Nobile, G. Besenbruch, K. Schultz, and I. Anteby, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged Particle Spectra from Laser-Driven Implosion Experiments," R. Epstein, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Particle-in-Cell Simulations of Ponderomotive Particle Acceleration in a Plasma," E. A. Startsev and C. J. McKinstrie, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Performance of Spherical Target Implosions on the OMEGA Laser System," D. D. Meyerhofer, P. W. McKenty, V. N. Goncharov, J. A. Delettrez, V. Yu. Glebov, F. J. Marshall, P. B. Radha, S. P. Regan, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, and R. D. Petrasso, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Pulse Shapes and Beam Smoothing for OMEGA and the NIF," R. S. Craxton and S. Skupsky, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Relativistic Electron Beams, Forward Thomson Scattering, and 'Raman' Scattering," A. Simon, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Smoothing of Nonuniform Laser-Intensity Patterns Improves Laser-Driven, Inertial Confinement Fusion Performance," R. Epstein, O. Gotchev, A. V. Kanaev, M. Kozlov, V. Lobatchev, and E. Startsev, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999 (invited).

"Stability of Self-Focused Filaments in Laser-Produced Plasmas," R. W. Short, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"T-$^{3}$He Deuterons as a Diagnostic for Capsule Implosions on OMEGA," C. K. Li, R. D. Petrasso, D. G. Hicks, F. H. Séguin, J. M. Soures, P. B. Radha, V. Yu. Glebov, J. P. Knauer, F. J. Marshall, S. Roberts, S. Skupsky, C. Sorce, C. Stoeckl, T. C. Sangster, T. W. Phillips, and M. D. Cable, presented at the 41st Annual Meeting of the Division of Plasma Physics, Seattle, WA, 15–19 November 1999.

"Characterization of Thick Cryogenic Layers Using an Interferometric Imaging System and Legendre Mode Decomposition," P. W. McKenty and M. D. Wittman, presented at the 13th Annual Target Fabrication Meeting, Catalina Island, CA, 8–11 November 1999.

"Initial Performance of the High Pressure DT Filling Portion of the Cryogenic Target Handling System," R. Q. Gram, J. Hobler, L. Lund, and D. R. Harding, presented at the 13th Annual Target Fabrication Meeting, Catalina Island, CA, 8–11 November 1999.

"Mechanical Properties and Gas Permeability of Polyimide Shells Fabricated by the Vapor Deposition Method," F.-Y. Tsai, E. L. Alfonso, S.-H. Chen, and D. R. Harding, presented at the 13th Annual Target Fabrication Meeting, Catalina Island, CA, 8–11 November 1999.

"Stress-Strain Performance of Spider Silk," M. Bonino, L. Elasky, R. Q. Gram, S. Noyes, and D. R. Harding, presented at the 13th Annual Target Fabrication Meeting, Catalina Island, CA, 8–11 November 1999.

"Temperature Profiles and $l$ = 1 Nonuniformity within Cryogenic ICF Targets," E. L. Alfonso, I. Anteby, and D. R. Harding, presented at the 13th Annual Target Fabrication Meeting, Catalina Island CA, 8–11 November 1999.

"Front-End Laser System for the OMEGA Laser Fusion Facility," A. V. Okishev, M. D. Skeldon, J. H. Kelly, A. Babushkin, J. D. Zuegel, R. G. Roides, S. F. B. Morse, and W. Seka, presented at Optics '99, St. Petersburg, Russia, 19–21 October 1999.

"Magnetorheological Finishing of Aspheres," D. Golini and S. D. Jacobs, presented at the Optical Society of America Annual Meeting, Santa Clara, CA, 26 September–1 October 1999.

"Magnetorheological Finishing of KDP," S. D. Jacobs, S. R. Arrasmith, I. A. Kozhinova, L. L. Gregg, H. J. Romanofsky, A. B. Shorey, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, presented at the Optical Society of America Annual Meeting, Santa Clara, CA, 26 September–1 October 1999.

"Development and Characterization of Magnetorheological Fluids for Optical Finishing," S. R. Arrasmith, S. D. Jacobs, I. A. Kozhinova, A. B. Shorey, L. L. Gregg, H. J. Romanofsky, D. Golini, W. I. Kordonski, S. Hogan, and P. Dumas, presented at Fine Powder Processing '99, University Park, PA, 20–22 September 1999.

"Broadband Beam Smoothing on OMEGA with Two-Dimensional Smoothing by Spectral Dispersion," J. D. Zuegel, D. Jacobs-Perkins, J. A. Marozas, R. G. Roides, W. A. Bittle, E. M. R. Michaels, S. P. Regan, R. S. Craxton, J. H. Kelly, T. J. Kessler, W. Seka, and S. Skupsky, presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"Direct-Drive Cryogenic Targets and the OMEGA Cryogenic-Target Handling System," D. R. Harding, R. Q. Gram, M. D. Wittman, L. D. Lund, D. Lonobile, M. J. Shoup, III, S. J. Loucks, G. Besenbruch, K. Schultz, A. Nobile, and S. Letzring, presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"NIF-Scale Direct-Drive Interaction on OMEGA," W. Seka, D. D. Meyerhofer, S. P. Regan, R. S. Craxton, B. Yaakobi, C. Stoeckl, A. Simon, R. W. Short, and R. E. Bahr,

presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"OMEGA Experiments and Preparation for Moderate-Gain Direct-Drive Experiments on the NIF," R. L. McCrory, R. E. Bahr, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, V. N. Goncharov, R. Q. Gram, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. P. Knauer, S. J. Loucks, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, O. V. Gotchev, P. B. Radha, S. Regan, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, M. D. Wittman, B. Yaakobi, J. D. Zuegel, R. D. Petrasso, D. G. Hicks, and C. K. Li, presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"Simulation of OMEGA Experiments as a Prelude to Direct-Drive NIF Ignition Experiments," S. Skupsky, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, V. N. Goncharov, P. W. McKenty, P. B. Radha, R. P. J. Town, D. D. Meyerhofer, W. Seka, and R. L. McCrory, presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"Spherical Implosion Experiments on OMEGA: Measurements of the Cold, Compressed Shell," B. Yaakobi, V. A. Smalyuk, J. A. Delettrez, R. P. J. Town, F. J. Marshall, V. Yu. Glebov, R. D. Petrasso, J. M. Soures, D. D. Meyerhofer, and W. Seka, presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"Stability Analysis of Directly Driven NIF Capsules," V. N. Goncharov, S. Skupsky, P. W. McKenty, J. A. Delettrez, R. P. J. Town, and C. Cherfils-Clerouin, presented at Inertial Fusion Sciences and Applications (IFSA) 1999, Bordeaux, France, 12–17 September 1999.

"Details of the Polishing Spot in Magnetorheological Finishing (MRF)," S. R. Arrasmith, I. A. Kozhinova, L. L. Gregg, H. J. Romanofsky, A. B. Shorey, S. D. Jacobs, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, presented at Optical Manufacturing and Testing III, Denver, CO, 18–23 July 1999.

"A Study of Material Removal During Magnetorheological Finishing (MRF)," A. B. Shorey, L. L. Gregg, H. J. Romanofsky, S. R. Arrasmith, I. A. Kozhinova, and S. D. Jacobs, presented at Optical Manufacturing and Testing III, Denver, CO, 18–23 July 1999.

"Measurements of the Spatio-Temporal Properties of High-Order Harmonics," D. D. Meyerhofer, T. Ditmire, N. Hay, M. H. R. Hutchinson, M. B. Mason, and J. W. G. Tisch, presented at SPIE's International Symposium on Optical Science, Engineering, and Instrumentation, Denver, CO, 18–23 July 1999.

"Direct-Drive Issues on the NIF," R. P. J. Town, presented at the 1999 Fusion Summer Study Workshop, Snowmass, CO, 11–23 July 1999.

"The OMEGA Laser System," R. P. J. Town, presented at the 1999 Fusion Summer Study Workshop, Snowmass, CO, 11–23 July 1999.

"Rayleigh–Taylor Experiments on the OMEGA Laser," R. P. J. Town, presented at the 1999 Fusion Summer Study Workshop, Snowmass, CO, 11–23 July 1999.

"Observation of Electron Trapping in an Intense Laser Beam," J. L. Chaloupka, D. D. Meyerhofer, presented at the Applications of High Field and Short Wavelength Sources VIII Topical Meeting, Potsdam, Germany, 27–30 June 1999.

"Experiments and Simulations of Picosecond Pulse Switching and Turn-on Delay Time in Y-Ba-Cu-O Josephson Junctions," R. Adam, C. Williams, R. Sobolewski, O. Harnack, and M. Darula, presented at ISEC '99, Berkeley, CA, 21–25 June 1999.

"Infrared Hot-Electron NbN Superconducting Photodetectors for Imaging Applications," K. S. Il'in, A. A. Verevkin, G. N. Gol'tsman, and R. Sobolewski, presented at ISEC '99, Berkeley, CA, 21–25 June 1999.

"Nonequilibrium Kinetic Inductive Response of Y-Ba-Cu-O Photodetectors," C. Williams, R. Adam, R. Sobolewski, and O. Harnack, presented at ISEC '99, Berkeley, CA, 21–25 June 1999.

"Analysis and Simulation of Sound Waves Governed by the Korteweg-de Vries Equation," C. J. McKinstrie and M. V. Kozlov, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Analysis and Simulation of Sound Waves Governed by the Ion Fluid and Poisson Equations," M. V. Kozlov, C. J. McKinstrie, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Analysis of Planar Burnthrough Experiments on OMEGA and NIKE," J. A. Delettrez, S. P. Regan, T. R. Boehly, C. Stoeckl, D. D. Meyerhofer, P. B. Radha, J. Gardner, Y. Aglitskiy, T. Lehecka, S. Obenschain, C. Pawley, and S. Serlin, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Forward SBS, Filamentation, and SSD," R. W. Short, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Hydrodynamic Simulations of Static and Dynamic Laser Imprint," Y. Srebro, D. Oron, D. Shvarts, T. R. Boehly, V. N. Goncharov, O. Gotchev, V. N. Smalyuk, S. Skupsky, and D. D. Meyerhofer, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Imaging of Compressed Shells with Embedded Thin, Cold, Titanium-Doped Layers on OMEGA," V. A. Smalyuk, F. J. Marshall, D. D. Meyerhofer, and B. Yaakobi, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Laser–Plasma Interactions in Plasmas Characteristic of the Direct-Drive NIF Foot-to-Main Drive Region," D. D. Meyerhofer, R. Bahr, R. S. Craxton, S. P. Regan, W. Seka, R. P. J. Town, and B. Yaakobi, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Modeling of Laser Imprint for OMEGA and NIF Capsules," V. N. Goncharov, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Numerical Two-Dimensional Studies of Near-Forward Stimulated Brillouin Scattering of a Laser Beam in Plasmas," A. V. Kanaev and C. J. McKinstrie, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Numerical Study of Linear Feed-out of Short-Wavelength, Rear-Surface Perturbaitons in Planar Geometry," V. Lobatchev, R. Betti, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Particle-in-Cell Simulation of Ponderomotive Particle Acceleration in a Plasma," E. A. Startsev and C. J. McKinstrie, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Planar Burnthrough Experiments on OMEGA and NIKE," S. P. Regan, J. A. Delettrez, T. R. Boehly, D. K. Bradley, J. P. Knauer, D. D. Meyerhofer, and C. Stoeckl, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Simulation of the Radiative Preheat of Target Foils and Shells in Laser-Driven Ablation and Implosion Experiments," R. Epstein, T. J. B. Collins, J. A. Delettrez, V. N. Goncharov, S. Skupsky, R. P. J. Town, and B. Yaakobi, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Simulations of OMEGA Long-Scale-Length Plasmas Representative of the Transition Portion of NIF Direct-Drive Pulses," R. S. Craxton, D. D. Meyerhofer, S. P. Regan, W. Seka, R. P. J. Town, and B. Yaakobi, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Tertiary Neutron Diagnostic by Carbon Activation," V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, J. M. Soures, C. Stoeckl, T. C. Sangster, S. Padalino, J. Nyquist, and R. D. Petrasso, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Hard X-Ray Signatures for Laser-Plasma Instabilities on OMEGA," C. Stoeckl, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, V. A. Smalyuk, and J. D. Zuegel, presented at the 29th Annual Anomalous Absorption Conference, Pacific Grove, CA, 13–18 June 1999.

"Time-Resolved Nonequilibrium Phenomena in High-Temperature Superconductors," R. Sobolewski, presented at the International Workshop on Superconductivity, Magneto-Resistive Materials, and Strongly Correlated Quantum Systems, Hanoi, Vietnam, 4–11 June 1999.

"Diode-Pumped Regenerative Amplifier for the OMEGA Laser System," A. Babushkin, W. A. Bittle, M. D. Skeldon, and W. Seka, presented at CLEO/QELS 1999, Baltimore, MD, 23–28 May 1999.

"High-Repetition-Rate, Diode-Pumped, Multipass Preamplifier for the OMEGA Master Oscillator," A. V. Okishev, presented at CLEO/QELS 1999, Baltimore, MD, 23–28 May 1999.

"An Optical Pulse-Shaping System Based on Aperture-Coupled Striplines for OMEGA Pulse-Shaping Applications," M. D. Skeldon, A. V. Okishev, R. L. Keck, and W. Seka, presented at CLEO/QELS 1999, Baltimore, MD, 23–28 May 1999.

"Prepulse Contrast Monitor for the OMEGA Drive Line," A. V. Okishev, D. Jacobs-Perkins, S. F. B. Morse, D. Scott, and W. Seka, presented at CLEO/QELS 1999, Baltimore, MD, 23–28 May 1999.

"An Overview of Magnetorheological Finishing (MRF) for Precision Optics Manufacturing," S. D. Jacobs, S. R. Arrasmith, I. A. Kozhinova, L. L. Gregg, A. B. Shorey, H. J. Romanofsky, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, presented at the 101st Annual Meeting of the American Ceramics Society, Indianapolis, IN, 25–28 April 1999 (invited).

"Studies of Material Removal in Magnetorheological Finishing (MRF) From Polishing Spots," S. R. Arrasmith, S. D. Jacobs, A. B. Shorey, D. Golini, W. I. Kordonski, S. Hogan, and P. Dumas, presented at the 101st Annual Meeting of the American Ceramics Society, Indianapolis, IN, 25–28 April 1999.

"Design and Testing of a New Magnetorheometer," A. B. Shorey, S. D. Jacobs, W. I. Kordonski, S. R. Gorodkin, and K. M. Kwong, presented at the Spring Meeting of the Materials Research Society, San Francisco, CA, 5–9 April 1999.

"Origin of Corrosion in Magnetorheological Fluids Used for Optical Finishing," I. A. Kozhinova, S. R. Arrasmith, L. L. Gregg, and S. D. Jacobs, presented at the Spring Meeting of the Materials Research Society, San Francisco, CA, 5–9 April 1999.

"Reverse Intersystem Crossing From a Triple State of Rose Bengal Populated by Sequential 532- and 1064-nm Laser Excitation," J. M. Larkin, W. R. Donaldson, T. H.

Foster, and R. S. Knox, presented at the APS 1999 Centennial Meeting, Atlanta, GA, 20–26 March 1999.

"Characterization of the Electron Energy Relaxation Process in NbN Hot-Electron Devices," K. S. Il'in, G. N. Gol'tsman, B. M. Voronov, and R. Sobolewski, presented at the 10th International Symposium on Space Terahertz Technology, Charlottesville, VA, 16–18 March 1999.

"A High-Bandwidth Optical Pulse-Shaping/Fiber-Optic Distribution System for the High-Energy OMEGA Laser Fusion Facility," A. V. Okishev, M. D. Skeldon, R. L. Keck, R. G. Roides, K. Green, and W. Seka, presented at OFC/IOOC '99, San Diego, CA, 21–26 February 1999.

"Effects of SSD on Forward SBS and Filamentation," R. W. Short, presented at the Banff Workshop on Laser Plasma Interaction Physics, Banff, Canada, 17–20 February 1999.

"Recent SBS and SRS Results Under Direct-Drive NIF Conditions," W. Seka, S. P. Regan, D. D. Meyerhofer, B. Yaakobi, R. S. Craxton, A. Simon, and R. W. Short, presented at the Banff Workshop on Laser Plasma Interaction Physics, Banff, Canada, 17–20 February 1999.

"A Highly Stable, Diode-Pumped Master Oscillator for the OMEGA Laser Facility," A. V. Okishev, M. D. Skeldon, and W. Seka, presented at the 1999 Advanced Solid-State Lasers Fourteenth Topical Meeting, Boston, MA, 31 January–3 February 1999.

"UV-Power Balance on the OMEGA Laser," W. R. Donaldson, R. Boni, R. L. Keck, and P. Jaanimagi, presented at LASE '99, San Jose, CA, 22–29 January 1999.

"Theory of the Ablative Richtmyer–Meshkov Instability," V. N. Goncharov, presented at Hydrodynamic and Magnetohydrodynamic Interface Instabilities: Unsteady or Discontinuous Flows, Paris, France, 11–12 January 1999.

## 1998

"Accurate Formulas for the Landau Damping Rates of Electrostatic Waves," R. E. Giacone, C. J. McKinstrie, and E. A. Startsev, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Analysis of the Forward and Backward Stimulated Brillouin Scattering of Crossed Laser Beams," C. J. McKinstrie and E. A. Startsev, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Beam Power Matching on the OMEGA Laser," R. L. Keck, W. R. Donaldson, W. Seka, and R. Boni, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Capsule Implosion Symmetry in OMEGA Tetrehedral Hohlraums," J. D. Schnittman, R. S. Craxton, S. M. Pollaine, R. E. Turner, J. M. Wallace, T. J. Murphy, N. D. Delamater, J. A. Oertel, A. A. Hauer, and K. A. Klare, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Charged-Particle Spectroscopy on OMEGA: Initial Results," R. D. Petrasso, C. K. Li, D. G. Hicks, F. H. Séguin, J. M. Soures, V. Y. Glebov, D. R. Harding, J. P. Knauer, J. Law, D. D. Meyerhofer, P. B. Radha, J. D. Schnittman, W. Seka, R. W. Short, A. Simon, S. Skupsky, C. Stoeckl, T. W. Phillips, T. C. Sangster, T. Ognibene, M. D. Cable, and S. Padalino, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998 (invited).

"A Comparison of Planar Burnthrough Experiments with Single-Mode Rayleigh–Taylor Instability Growth Rate on OMEGA," S. P. Regan, T. R. Boehly, D. K. Bradley, T. J. B. Collins, J. A. Delettrez, J. P. Knauer, D. D. Meyerhofer, P. W. McKenty, and V. A. Smalyuk, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Control of Ablation Velocity Through Prepulses in Direct-Drive ICF," T. J. B. Collins, J. P. Knauer, S. Skupsky, and C. P. Verdon, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"The Effect of Pulse Shape and Beam Smoothing on Laser Imprinting," T. R. Boehly, V. A. Smalyuk, O. Gotchev, J. P. Knauer, D. D. Meyerhofer, D. K. Bradley, J. A. Delettrez, S. Skupsky, and R. P. J. Town, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"The Effect of Pulse Shape on Laser Imprint and SSD Smoothing," J. A. Delettrez, V. N. Goncharov, S. Skupsky, T. R. Boehly, D. K. Bradley, J. P. Knauer, D. D. Meyerhofer, S. P. Regan, and V. A. Smalyuk, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Enhanced Beam Smoothing on OMEGA and the NIF," R. S. Craxton, S. Skupsky, A. Babushkin, J. H. Kelly, T. J. Kessler, J. M. Soures, and J. D. Zuegel, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Exact Green Function for a Class of Parametric Instabilities," A. V. Kanaev and C. J. McKinstrie, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Growth of Rayleigh–Taylor Unstable, CH Ablation Interfaces Doped with Silicon," J. P. Knauer, R. Betti, T. R. Boehly, D. K. Bradley, T. J. B. Collins, J. A. Delettrez, P. W. McKenty, D. D. Meyerhofer, V. A. Smalyuk, and R. P. J. Town, presented at the

40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Hydrodynamic Performance of Spherical CH Targets on OMEGA Using Shaped Laser Pulses," D. D. Meyerhofer, D. K. Bradley, J. A. Delettrez, V. Y. Glebov, J. P. Knauer, F. J. Marshall, P. W. McKenty, S. P. Regan, S. Skupsky, C. Stoeckl, and R. P. J. Town, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Interpretation of Ion-Acceleration Effects Observed in Charged-Particle Spectroscopy on OMEGA," R. W. Short, C. K. Li, D. G. Hicks, R. D. Petrasso, J. M. Soures, and W. Seka, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Irradiation Uniformity for High-Compression Laser Fusion Experiments," S. Skupsky and R. S. Craxton, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998 (invited).

"$K_\alpha$ Cold Target Imaging and Preheat Measurement Using a Pinhole-Array X-Ray Spectrometer," B. Yaakobi, F. J. Marshall, and D. K. Bradley, 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Laser–Plasma Interactions in Long-Scale-Length Plasmas Under Direct-Drive National Ignition Facility Conditions," S. P. Regan, D. K. Bradley, J. J. Carroll, III, A. V. Chirokikh, R. S. Craxton, R. P. Drake, D. D. Meyerhofer, W. Seka, R. W. Short, A. Simon, R. P. J. Town, and B. Yaakobi, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998 (invited).

"Late-Time Evolution of Broad-Bandwidth. Laser-Imposed Nonuniformities in Accelerated Foils," V. A. Smalyuk, T. R. Boehly, D. K. Bradley, J. P. Knauer, D. D. Meyerhofer, D. Oron, Y. Srebro, and D. Shvarts, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Linear Feed-out of Rear Surface Nonuniformities in Planar Geometry," V. Lobatchev and R. Betti, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Linear Stability Analysis of Ablation Fronts During the Shock Transit Time," V. N. Goncharov, R. Betti, R. L. McCrory, and C. Cherfils, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Measurement of Accelerated Ions from OMEGA Targets," D. G. Hicks, C. K. Li, F. H. Séguin, R. D. Petrasso, J. M. Soures, D. R. Harding, D. D. Meyerhofer, W. Seka, A. Simon, R. W. Short, T. W. Phillips, T. C. Sangster, M. D. Cable, T. P. Bernat, and J. D. Schnittman, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Measurements of Temperature and Areal Density Using Charged-Particle Spectroscopy on OMEGA," C. K. Li, D. G. Hicks, F. H. Séguin, R. D. Petrasso, J. M. Soures, D. R. Harding, J. P. Knauer, J. Law, P. B. Radha, S. Skupsky, S. Padalino, T. W. Phillips, T. C. Sangster, and M. D. Cable, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Neutron Burn History Measurements on OMEGA," C. Stoeckl, P. W. McKenty, V. Y. Glebov, D. D. Meyerhofer, N. S. Rogers, J. D. Zuegel, M. D. Cable, T. J. Ognibene, and R. A. Lerche, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Neutron Burn Truncation Experiments on OMEGA," P. W. McKenty, V. Y. Glebov, D. D. Meyerhofer, N. S. Rogers, C. Stoeckl, J. D. Zuegel, M. D. Cable, T. J. Ognibene, R. A. Lerche, and R. L. Griffith, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"A Novel Diagnostic for $\rho R$ in ICF Targets," P. B. Radha, S. Skupsky, J. M. Soures, and R. D. Petrasso, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Numerical Simulation of the Forward and Backward Stimulated Brillouin Scattering of Crossed Laser Beams," E. A. Startsev and C. J. McKinstrie, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"OMEGA Surrogate Capsule Designs and Experiments," R. P. J. Town, F. J. Marshall, J. A. Delettrez, R. Epstein, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. Skupsky, and C. Stoeckl, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Recent $\rho R$ Measurements on OMEGA Using the MEDUSA Scintillator Array," V. Y. Glebov, J. P. Knauer, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, N. S. Rogers, C. Stoeckl, M. D. Cable, and R. E. Turner, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Return Current Electron Beams and Their Generation of 'Raman' Scattering," A. Simon, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Seeds and Early Development of the Rayleigh–Taylor Instability in Laser-Accelerated Targets," J. Dirrenberger, V. Lobatchev, and R. L. McCrory, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Shinethrough Properties of Various Barrier-Layer Materials," Y. Fisher, T. R. Boehly, D. K. Bradley, D. R. Harding, D. D. Meyerhofer, and M. D. Wittman, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Simultaneous Measurement of Areal Density and Temperature in $D^3He$-Filled Imploding Capsules," J. M. Soures, D. R. Harding, P. B. Radha, S. Skupsky, C. K. Li, D. G. Hicks, R. D. Petrasso, and F. H. Séguin, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Simulation of the Radiative Preheat of Target Foils and Shells in Laser-Driven Ablation and Implosion Experiments," R. Epstein, T. J. B. Collins, J. A. Delettrez, S. Skupsky, and R. P. J. Town, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Spherical Rayleigh–Taylor Experiments on the 60-Beam OMEGA Laser System Using the Burnthrough Technique," D. K. Bradley, J. A. Delettrez, S. P. Regan, S. Skupsky, and D. D. Meyerhofer, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Stable Regimes for External Modes in High-$B$ Tokamak Plasmas," R. Betti and E. Fedutenko, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Stimulated Brillouin Scattering in Direct-Drive NIF Conditions," W. Seka, A. V. Chirokikh, D. D. Meyerhofer, S. P. Regan, D. K. Bradley, B. Yaakobi, R. S. Craxton, R. W. Short, and A. Simon, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Surrogate Cryogenic Target Experiments on OMEGA," F. J. Marshall, B. Yaakobi, D. D. Meyerhofer, R. P. J. Town, J. A. Delettrez, V. Y. Glebov, D. K. Bradley, J. P. Knauer, M. D. Cable, and T. J. Ognibene, presented at the 40th Annual Meeting, APS Division of Plasma Physics, New Orleans, LA, 16–20 November 1998.

"Recent Advances in Direct-Drive ICF Target Physics at the Laboratory for Laser Energetics," R. L. McCrory, J. M. Soures, A. Babushkin, R. E. Bahr, R. Betti, T. R. Boehly, R. Boni, D. K. Bradley, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. Q. Gram, D. R. Harding, D. G. Hicks, B. Hughes, P. A. Jaanimagi, T. J. Kessler, J. P. Knauer, C. K. Li, S. J. Loucks, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, A. V. Okishev, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, F. H. Séguin, W. Seka, R. W. Short, A. Simon, M. D. Skeldon, S. Skupsky, C. Stoeckl, R. P. J. Town, M. D. Wittman, B. Yaakobi, and J. D. Zuegel, presented at the 1998 IAEA Conference, Yokohama, Japan, 19–24 October 1998.

"A Single-Beam, High-Field Trap for Energetic Electrons," J. L. Chaloupka and D. D. Meyerhofer, presented at the 1998 OSA Annual Meeting/ILS-XIV, Baltimore, MD, 4–9 October 1998.

"Damage in Fused-Silica Spatial-Filter Lenses on the OMEGA Laser System," A. L. Rigatti, D. J. Smith, A. W. Schmid, S. Papernov, and J. H. Kelly, presented at the XXX Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 28 September–1 October 1998.

"How Small Stresses Affect 351-nm Damage Onset in Fused Silica," F. Dahmani, J. C. Lambropoulos, S. Burns, S. Papernov, and A. W. Schmid, presented at the XXX Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 28 September–1 October 1998.

"Laser-Induced Damage of Photo-Thermo-Refractive Glasses for Optical Holographic Elements Writing," O. M. Efimov, L. B. Glebov, S. Papernov, A. W. Schmid, and E. Van Stryland, presented at the XXX Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 28 September–1 October 1998.

"Production of Distributed Phase Plates Using an Energetic Ion Process," D. J. Smith, J. A. Warner, N. LeBarron, and S. LaDelia, presented at the XXX Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 28 September–1 October 1998.

"Beam Smoothing and Laser Imprinting," W. Seka, presented at the CEA-DOE Meeting, Bruyeres-le-Chatel, France, 14 September 1998.

"Charged Particle Spectrometer (CPS) as Core Diagnostic for OMEGA Implosions," D. D. Meyerhofer, presented at the CEA-DOE Meeting, Bruyeres-le-Chatel, France, 14 September 1998.

"The LLE Program Tests Critical Concepts of the Direct-Drive Ignition Demonstration Effort," R. L. McCrory, presented at the CEA-DOE Meeting, Bruyeres-le-Chatel, France, 14 September 1998.

"Inertial Confinement Fusion: Status, Challenges, and Future," J. P. Knauer, presented at the Department of Physics and Astronomy at the University of Hawaii, Honolulu, HI, 10 September 1998.

"High-Frequency Crosstalk in Superconducting Microstrip Waveguide Interconnects," M. Currie, D. Jacobs-Perkins, R. Sobolewski, and T. Y. Hsiang, presented at the 1998 Applied Superconductivity Conference, Palm Springs, CA, 13–18 September 1998.

"Quantum Efficiency and Time-Domain Response of NbN Superconducting Hot-Electron Photodetectors," K. S. Il'in, I. I. Milostnaya, A. A. Verevkin, G. N. Gol'tsman, M. Currie, and R. Sobolewski, presented at the 1998 Applied Superconductivity Conference, Palm Springs, CA, 13–18 September 1998.

"Subpicosecond Measurements of Single-Flux-Quantum Pulse Interactions," M. Currie, D. Jacobs-Perkins, R. Sobolewski, and T. Y. Hsiang, presented at the 1998 Applied Superconductivity Conference, Palm Springs, CA, 13–18 September 1998.

"Subpicosecond Measurements of Y-Ba-Cu-O Josephson Junction and Microbridge Integrated Structures," R. Adam, M. Currie, R. Sobolewski, O. Harnack, and M. Darula, presented at the 1998 Applied Superconductivity Conference, Palm Springs, CA, 13–18 September 1998.

"Time and Temperature Evolution of the Photodoping Effect in Y-Ba-Cu-O Josephson Junctions and Thin Films," R. Adam, R. Sobolewski, W. Markowitsch, C. Stockinger, W. Lang, J. D. Pedarnig, and D. Bauerle, presented at the 1998 Applied Superconductivity Conference, Palm Springs, CA, 13–18 September 1998.

"Precision Measurement of Electron Initial Conditions for Tunneling Ionization in an Elliptically Polarized Laser," S. J. McNaught and D. D. Meyerhofer, presented at the Sixteenth International Conference on Atomic Physics, Windsor, Ontario, Canada, 3–7 August 1998.

"Front-End Laser System for the 60-Beam, 30-kJ (UV) OMEGA Laser Facility," A. V. Okishev, M. D. Skeldon, J. H. Kelly, A. Babushkin, J. D. Zuegel, R. G. Roides, and S. B. F. Morse, presented at the IXth Conference on Laser Optics (LO '98), St. Petersburg, Russia, 22–26 June 1998.

"Performance of the OMEGA Laser for Direct-Drive ICF," J. H. Kelly, S. F. B. Morse, R. Boni, W. R. Donaldson, P. A. Jaanimagi, R. L. Keck, T. J. Kessler, A. V. Okishev, A. Babushkin, A. L. Rigatti, W. Seka, and S. J. Loucks, presented at the IXth Conference on Laser Optics (LO '98), St. Petersburg, Russia, 22–26 June 1998.

"Accurate Formulas for the Landau Damping Rates of Electrostatic Waves," E. A. Startsev, C. J. McKinstrie, and R. E. Giacone, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Angular Dependence of Stimulated Brillouin Scattering," R. E. Giacone and C. J. McKinstrie, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, Maine, 14–19 June 1998.

"Electron Temperature and Density Measurements of Long-Scale-Length, Laser-Produced Plasmas on OMEGA," S. P. Regan, D. K. Bradley, A. V. Chirokikh, R. S. Craxton, D. D. Meyerhofer, W. Seka, R. P. J. Town, B. Yaakobi, R. P. Drake, and J. J. Carroll, III, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Forward and Backward Stimulated Brillouin Scattering of Crossed Laser Beams," C. J. McKinstrie and E. A. Startsev, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Interpretation of Long-Scale-Length Plasma Characterization Experiments on OMEGA," R. S. Craxton, D. D. Meyerhofer, and W. Seka, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, Maine, 14–19 June 1998.

"Late-Time Evolution of Broad-Bandwidth, Laser-Imposed Nonuniformities in Accelerated Foils," D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, T. Collins, J. A. Delettrez, V. N. Goncharov, J. P. Knauer, R. P. J. Town, V. A. Smalyuk, D. Oron, Y. Szebro, and D. Shvarts, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Mix Experiments on the 60-Beam OMEGA Laser System Using Smoothing by Spectral Dispersion (SSD)," J. A. Delettrez, D. K. Bradley, S. Regan, T. R. Boehly, J. P. Knauer, and V. A. Smalyuk, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, Maine, 14–19 June 1998.

"Nonlinear Evolution of the 3-D Broad-Bandwidth Spectrum of Imprinting in Planar Targets Accelerated by UV Light," V. A. Smalyuk, T. R. Boehly, D. K. Bradley, J. P. Knauer, D. D. Meyerhofer, D. Oron, Y. Azebro, and D. Shvarts, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Oblique Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," E. J. Turano and C. J. McKinstrie, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Radiation Drive Symmetry in OMEGA Tetrahedral Hohlraums," J. D. Schnittman, R. S. Craxton, N. D. Delamater, K. A. Klare, T. J. Murphy, J. M. Wallace, E. I. Lindman, G. R. Magelssen, J. A. Oertel, and S. M. Pollaine, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Return-Current Electrons and Their Generation of Electron Plasma Waves," A. Simon, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"The 'Return' of the Electron Beam," A. Simon, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Shinethrough of Various Barrier-Layer Materials," Y. Fisher, T. R. Boehly, D. K. Bradley, D. R. Harding, D. D. Meyerhofer, and M. D. Wittman, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, Maine, 14–19 June 1998.

"Stimulated Brillouin Backscattering in NIF Direct-Drive Scale Plasmas," W. Seka, D. K. Bradley, A. V. Chirokikh, R. S. Craxton, S. Regan, D. D. Meyerhofer, R. W. Short, A.

Simon, B. Yaakobi, J. J. Carroll, III, and R. P. Drake, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Simulated Brillouin Scattering in High-Intensity, Self-Focused Filaments: The Effects of Sound Wave Diffraction and Plasma Flow," R. W. Short, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Simulations in One Dimension of the Effects of Fuel–Pusher Mix in Laser-Driven Implosions on Core Temperatures and Densities Determined from Core Emission Spectroscopy," R. Epstein, J. A. Delettrez, R. P. J. Town, D. K. Bradley, D. Hayes, C. F. Hooper, and C. P. Verdon, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, Maine, 14–19 June 1998.

"Simulations of OMEGA Spherical Implosions," R. P. J. Town, R. P. Bahukutumbi, J. A. Delettrez, R. Epstein, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, and S. Skupsky, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Theory of the Linear Feed-Out in Planar Geometry," V. Lobatchev, R. Betti, and R. R. McCrory, presented at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998.

"Uniformity Model for Energetic Ion Process Using a Kaufman Ion Source," D. J. Smith, J. A. Warner, and N. LeBarron, presented at Optical Interference Coatings, Tucson, AZ, 7–12 June 1998.

"A Wideband Optical Monitor for a Planetary-Rotation Coating System," M. B. Campanelli and D. J. Smith, presented at Optical Interference Coatings, Tucson, AZ, 7–12 June 1998.

"Compact Nd3+-Based Laser System with Gain $G < 10^{13}$ and Output Energy of 20 J," A. Babushkin, J. H. Kelly, C. T. Cotton, M. Labuzeta, M. Miller, T. A. Safford, R. G. Roides, W. Seka, I. Will, M. D. Tracy, and D. L. Brown, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"The Cross-Phase Modulation Between Two Intense Orthogonally Polarized Laser Beams Co-Propagating through a Kerr-like Medium," J. A. Marozas, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"Demonstration of Dual-Tripler, Broadband Third-Harmonic Generation and Implications for OMEGA and the NIF," A. Babushkin, R. S. Craxton, S. Oskoui, M. J. Guardalben, R. L. Keck, and W. Seka, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"Multipurpose, Diode-Pumped Nd:YLF Laser for OMEGA Pulse Shaping and Diagnostics Applications," A. V. Okishev, M. D. Skeldon, and W. Seka, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"An Optical Pulse-Shaping System Based on Aperture-Coupled Stripline for OMEGA Pulse-Shaping Applications," M. D. Skeldon, A. V. Okishev, R. L. Keck, W. Seka, and S. A. Letzring, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"Plans to Achieve 1 THz Bandwidth with Two-Dimensional Smoothing by Spectral Dispersion on OMEGA," J. D. Zuegel, E. Michaels, S. Skupsky, R. S. Craxton, J. Kelly, and S. Letzring, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"Regenerative Amplifier for the OMEGA Laser System," A. Babushkin, W. Bittle, S. A. Letzring, M. D. Skeldon, and W. Seka, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"Transient Bandwidth Analysis of Photoconductive Microwave Switches Implemented in the OMEGA Pulse-Shaping System," K. Green, W. Seka, M. D. Skeldon, R. L. Keck, A. V. Okishev, and R. Sobolewski, presented at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998.

"Characterization of an X-Ray Radiographic System Used for Laser-Driven Planar Target Experiments," V. A. Smalyuk, T. R. Boehly, D. K. Bradley, J. P. Knauer, and D. D. Meyerhofer, presented at the 12th Topical Conference High-Temperature Plasma Diagnostics, Princeton, NJ, 7–11 June 1998.

"A High-Energy X-Ray Microscope for Inertial Confinement Fusion," F. J. Marshall and G. R. Bennett, presented at the 12th Topical Conference High-Temperature Plasma Diagnostics, Princeton, NJ, 7–11 June 1998.

"Photoelectron Initial Conditions for Tunneling Ionization in an Elliptically Polarized Laser," S. J. McNaught and D. D. Meyerhofer, presented at the 1998 Annual Meeting Division of Atomic, Molecular and Optical Physics (DAMOP), Santa Fe, NM, 27–30 May 1998.

"Laser–Plasma Interaction Experiments in NIF Direct-Drive Scale Plasmas," D. D. Meyerhofer, D. K. Bradley, A. V. Chirokikh, R. S. Craxton, S. Regan, W. Seka, R. W. Short, A. Simon, B. Yaakobi, J. Carroll, and R. P. Drake, presented at the 25th European

Conference on Laser Interaction with Matter (25th ECLIM), Formia, Italy, 4–8 May 1998.

"Laser-Uniformity and Hydrodynamic-Stability Experiments at the OMEGA Laser Facility," T. R. Boehly, A. Babushkin, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, T. J. Kessler, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. Regan, W. Seka, S. Skupsky, V. A. Smalyuk, R. P. J. Town, and B. Yaakobi, presented at the 25th European Conference on Laser Interaction with Matter (25th ECLIM), Formia, Italy, 4–8 May 1998.

"Demonstration of the Dual-Tripler Scheme for Increased-Bandwidth Frequency Tripling," A. Babushkin, R. S. Craxton, S. Oskoui, M. J. Guardalben, R. L. Keck, and W. Seka, presented at CLEO/IQEC 1998, San Francisco, CA, 3–8 May 1998.

"Efficient 1053-nm Nd:YLF Laser End Pumped by a 100 W Quasi-cw Diode Array," A. Babushkin and W. Seka, presented at CLEO/IQEC 1998, San Francisco, CA, 3–8 May 1998.

"A High-Bandwidth Electrical-Waveform Generator Based on Aperture-Coupled Striplines for OMEGA Pulse-Shaping Applications," M. D. Skeldon, A. Okishev, R. Keck, W. Seka, and S. A. Letzring, presented at CLEO/IQEC 1998, San Francisco, CA, 3–8 May 1998.

"New Dual-Regime, Diode-Pumped Master Oscillator for the OMEGA Pulse-Shaping System," A. V. Okishev, M. D. Skeldon, and W. Seka, presented at CLEO/ IQEC 1998, San Francisco, CA, 3–8 May 1998.

"Controlling the Permeability of Shinethrough Barriers on Inertial Fusion Targets," M. D. Wittman, S. Scarantino, and D. R. Harding, presented at the Target Fabrication Meeting 1998, Jackson Hole, WY, 19–23 April 1998.

"Fabrication of Polyimide Shells by Vapor Phase Deposition for Use as ICF Targets," E. L. Alfonso, F.-Y. Tsai, S.-H. Chen, R. Q. Gram, and D. R. Harding, presented at the Target Fabrication Meeting 1998, Jackson Hole, WY, 19–23 April 1998.

"Counter-Rotating Planetary Design for Large Rectangular Substrates," A. R. Staley, D. J. Smith, R. C. Eriksson, and R. P. Foley, presented at the 41st Annual Technical Conference of the Society of Vacuum Coaters, Boston, MA, 18–23 April 1998.

"Laser-Driven Hydrodynamic Instability Experiments of Interest to Inertial Confinement Fusion," T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, T. Collins, J. A. Delettrez, R. L. Keck, S. Regan, V. A. Smalyuk, W. Seka, and R. P. J. Town, presented at the Second International Workshop on Laboratory Astrophysics with Intense Lasers, Tucson, AZ, 19–21 March 1998.

"Observation of Positron Production by Multiphoton Light by Light Scattering," D. D. Meyerhofer, presented at the Second International Workshop on Laboratory Astrophysics with Intense Lasers, Tucson, AZ, 19–21 March 1998.

"Transit-Time Damping and a New Physical Picture for Landau Damping," A. Simon, presented at the Physics Department of the National Cheng Kung University, Taiwan, China, 9 March 1998.

"Stimulated Brillouin Scattering in Long-Scale-Length Plasmas on the OMEGA Laser System," A. Chirokikh, D. D. Meyerhofer, W. Seka, R. S. Craxton, and A. Simon, presented at the XXV Zvenigorod Conference on Plasma Physics and Fusion, Zvenigorod, Russia, 2–6 March 1998.

"OMEGA Architecture, Capabilities, and Operations," S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, T. R. Boehly, R. Boni, T. H. Hinterman, R. L. Keck, J. H. Kelly, T. J. Kessler, L. D. Lund, D. D. Meyerhofer, A. V. Okishev, G. Pien, M. J. Shoup, III, D. J. Smith, and K. A. Thorp, presented at JOWOG 37, Los Alamos, NM, 2–5 February 1998.

"Efficient, End-Pumped, 1053-nm Nd:YLF Laser," A. Babushkin and W. Seka, presented at Advanced Solid-State Lasers, 13th Topical Meeting, Coeur D'Alene, ID, 2–4 February 1998.

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"Beta Limits in Rotating-Toroidal Plasmas," R. Betti and E. Fedutenko, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Characterization of Long-Scale-Length Plasmas Created Using the OMEGA Laser System," D. D. Meyerhofer, D. K. Bradley, A. V. Chirokikh, R. S. Craxton, W. Seka, R. P. J. Town, B. Yaakobi, and R. P. Drake, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Collisionless Damping of Localized Plasma Waves and Stimulated Raman Scattering in Laser-Produced Plasmas," R. W. Short and A. Simon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Comparison of Experimentally Measured Rayleigh–Taylor Growth to Hydrodynamic Simulations," J. P. Knauer, C. P. Verdon, R. Betti, D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, and V. A. Smalyuk, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Design of Long-Scale-Length Plasma Experiments on OMEGA," R. S. Craxton, D. K. Bradley, A. V. Chirokikh, D. D. Meyerhofer, W. Seka, B. Yaakobi, and R. P. Drake,

presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Dynamic Stabilization of Imploding Cryogenic Capsules," V. Lobatchev, R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Further Surrogate Cryogenic Target Experiments on OMEGA," F. J. Marshall, D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, R. L. Kremens, C. P. Verdon, B. Yaakobi, and M. D. Cable, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Initial Neutron Burn Truncation Experiments on OMEGA," P. W. McKenty, R. L. Keck, R. L. Kremens, K. J. Kearney, C. P. Verdon, J. D. Zuegel, M. D. Cable, T. J. Ognibene, R. A. Lerche, and R. L. Griffith, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Laser–Plasma-Interaction Physics on OMEGA Implosion Experiments," W. Seka, D. D. Meyerhofer, A. V. Chirokikh, D. K. Bradley, R. S. Craxton, and A. Simon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Linear Evolution of the Outer and Inner Surfaces of Imploding Spherical Shells," V. N. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Measurements of Core and Pusher Conditions in Surrogate Capsule Implosions on the OMEGA Laser System," D. K. Bradley, J. A. Delettrez, R. Epstein, R. P. J. Town, C. P. Verdon, B. Yaakobi, S. Regan, F. J. Marshall, T. R. Boehly, J. P. Knauer, D. D. Meyerhofer, V. A. Smalyuk, W. Seka, D. A. Haynes, Jr., M. Gunderson, G. Junkel, C. F. Hooper, Jr., P. M. Bell, T. J. Ognibene, and R. A. Lerche, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997 (invited).

"Near-Forward Stimulated Brillouin Scattering," C. J. McKinstrie, J. S. Li, and A. V. Kanaev, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Oblique Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," E. J. Turano, C. J. McKinstrie, and A. V. Kanaev, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"The Reduction of Laser Imprinting Produced by Distributed Polarization Rotators—A New Beam Smoothing Technique," T. R. Boehly, V. A. Smalyuk, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, C. P. Verdon, and D. Kalanter, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Relativistic Ponderomotive Dynamics of a Test Particle in a Plasma," E. A. Startsev and C. J. McKinstrie, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"The Role of Nonlocal Heat Flow in Hohlraums," R. P. J. Town, R. W. Short, C. P. Verdon, B. B. Afeyan, S. H. Glenzer, and L. J. Suter, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Second Stability Region for Low-n External Kinks" by E. Fedutenko and R. Betti, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Simulations in One Dimension of Unstable Mix in Laser-Driven Implosion Experiments," R. Epstein, J. A. Delettrez, D. K. Bradley, and C. P. Verdon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Stimulated Brillouin Scattering in Plasmas with Long-Density Scale Lengths on OMEGA," A. V. Chirokikh, R. S. Craxton, D. D. Meyerhofer, A. Simon, W. Seka, and R. P. Drake, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Studies of the 3-D Evolution of Imprinting in Planar Targets Accelerated by UV Light," V. A. Smalyuk, T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, W. Seka, and C. P. Verdon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Three-Dimensional Analysis of the Power Transfer Between Crossed Laser Beams," A. V. Kanaev, C. J. McKinstrie, V. T. Tikhonchiuk, R. E. Giacone, and H. X. Vu, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Transit-Time Damping, Landau Damping, and Perturbed Orbits," A. Simon and R. W. Short, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Two-Dimensional Modeling of Imprint and Feedthrough in OMEGA Mix Spherical Experiments" by J. A. Delettrez, D. K. Bradley, R. Epstein, and C. P. Verdon, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"Wide-Dynamic-Range, Neutron Bang Time Detector on OMEGA," J. D. Zuegel, R. L. Kremens, K. J. Kearney, P. W. McKenty, C. P. Verdon, and M. D. Cable, presented at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997.

"A Nonlinear UV-Damage Mechanism in Polymer Thin Films Observed from Below to Above Damage Threshold," S. Papernov, D. Zaksas, and A. W. Schmid, presented at the XXIX Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 6–8 October 1997.

"Perfluorinated Polymer Films with Extraordinary UV-Laser Damage Resistance," S. Papernov, D. Zaksas, and A. W. Schmid, presented at the XXIX Annual Symposium on Optical Materials for High Power Lasers Boulder, CO, 6–8 October 1997.

"Measurements of Material Properties Using Frequency Domain Interferometry," D. D. Meyerhofer, X. D. Cao, Y. Fisher, O. Konoplev, I. Walmsley, and L. Zheng, presented at Ultrafast Optics 1997, Monterey, CA, 4–7 August 1997.

"Deterministic Manufacturing of Precision Glass Optics Using Magnetorheological Finishing (MRF)," S. D. Jacobs, Fifth International Conference on Advances in the Fusion and Processing of Glass, Toronto, Canada, 27–31 July 1997.

"Subsurface Damage in Microgrinding Optical Glasses," J. C. Lambropoulos, S. D. Jacobs, B. Gillman, F. Yang, and J. Ruckman, presented at the Fifth International Conference on Advances in the Fusion and Processing of Glass, Toronto, Canada, 27–31 July 1997.

"Application of Coolants in Deterministic Microgrinding of Glass" by B. E. Gillman, B. M. Reed, M. A. Atwood, J. L. Ruckman, D. J. Quesnel, T. T. Ochinero, and S. D. Jacobs, presented at SPIE's 42nd Annual Meeting on Optical Science, Engineering, and Instrumentation, San Diego, CA, 27 July–1 August 1997.

"Glass-Ceramics: Deterministic Microgrinding, Lapping, and Polishing," J. C. Lambropoulos, B. E. Gillman, Y. Zhou, S. D. Jacobs, and H. J. Stevens, presented at SPIE's 42nd Annual Meeting on Optical Science, Engineering, and Instrumentation, San Diego, CA, 27 July–1 August 1997.

"Magnetorheological Finishing of IR Materials," S. D. Jacobs, F. Yang, E. M. Fess, J. B. Feingold, B. E. Gillman, W. I. Kordonski, H. Edwards, and D. Golini, presented at SPIE's 42nd Annual Meeting on Optical Science, Engineering, and Instrumentation, San Diego, CA, 27 July–1 August 1997.

"Precision Optics Fabrication Using Magnetorheological Finishing," D. Golini, S. D. Jacobs, W. Kordonski, and P. Dumas, presented at SPIE's 42nd Annual Meeting on Optical Science, Engineering, and Instrumentation, San Diego, CA, 27 July–1 August 1997.

"Precision Control of Aqueous Magnetorheological Fluids for Finishing of Optics," S. D. Jacobs, W. I. Kordonski, and H. M. Pollicove, presented at the 6th International

Conference on Electrorheological Fluids, Magnetorheological Suspensions and Their Applications, Yonezawa, Japan, 22–25 July 1997.

"Multiphoton Excitation of Rose Bengal by Near Infrared Light," J. M. Larkin, W. R. Donaldson, T. H. Foster, and R. S. Knox, presented at the 25th Annual Meeting of the American Society for Photobiology, St. Louis, MO, 5–10 July 1997.

"Picosecond Nodal Testing of Centimeter-Size Superconducting Nb Microstrip Interconnects," M. Currie, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, presented at the 6th International Superconductive Electronics Conference (ISEC '97) Berlin, Germany, 26–28 June 1997.

"Picosecond Response of a Superconducting Hot-Electron NbN Photodetector," M. Lindgren, W.-S. Zeng, M. Currie, R. Sobolewski, S. Cherednichenko, B. Voronov, and G. N. Gol'tsman, presented at the 6th International Superconductive Electronics Conference (ISEC '97), Berlin, Germany, 26–28 June 1997.

"Collisionless Damping of Localized Plasma Waves and Stimulated Raman Scattering in Filaments in Laser-Produced Plasmas," R. W. Short and A. Simon, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"The Effect of Increased Irradiation Uniformity on the Stability of Planar Targets Accelerated by UV Light," T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, R. L. Keck, J. A. Delettrez, V. A. Smalyuk, W. Seka, C. P. Verdon, R. G. Watt, O. Willi, R. J. Taylor, and D. Kalantar, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Evaluation of the Collisionless Damping Rate in Finite Slab Geometry," A. Simon and R. Short, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"An Examination of the Importance of Nonlocal Heat Flow in Hohlraums," R. P. J. Town, R. W. Short, C. P. Verdon, B. B. Afeyan, S. H. Glenzer, and L. J. Suter, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Interaction Physics Experiments on OMEGA," W. Seka, D. D. Meyerhofer, A. V. Chirokikh, R. S. Craxton, and R. P. Drake, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Linear Evolution of the Outer and Inner Surfaces of Imploding Spherical Shells," V. N. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Long-Scale-Length Plasma Designs for OMEGA," R. S. Craxton, W. Seka, and R. P. Drake, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Measurements of Mix in Spherical-Imploding-Target Experiments Using Doped Layers," D. K. Bradley, J. A. Delettrez, R. Epstein, F. J. Marshall, B. Yaakobi, and C. P. Verdon, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Oblique Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," A. V. Kanaev, C. J. McKinstrie, and E. J. Turano, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Oblique Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," E. J. Turano, C. J. McKinstrie, and A. V. Kanaev, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Performance of Planar Foam-Buffered Direct-Drive Targets on the OMEGA Laser System," D. D. Meyerhofer, T. R. Boehly, D. H. Kalantar, J. P. Knauer, D. K. Bradley, R. L. Keck, R. J. Taylor, V. A. Smalyuk, W. Seka, C. P. Verdon, R. G. Watt, and O. Willi, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Propagation of a Short Laser Pulse in a Plasma," B. Nodland, C. J. McKinstrie, and E. A. Startsev, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Simulation of Mix in Laser-Driven Implosions—Compressible Flow in Multimode Modeling of the Rayleigh–Taylor Instability," R. Epstein, J. A. Delettrez, and C. P. Verdon, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Single-Mode, Rayleigh–Taylor Growth-Rate Measurements with the OMEGA Laser System," J. P. Knauer, C. P. Verdon, D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, V. A. Smalyuk, D. Ofer, P. W. McKenty, S. G. Glendinning, D. H. Kalantar, R. G. Watt, P. L. Gobby, O. Willi, and R. J. Taylor, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Studies of the 3-D Evolution of Imprinting in Planar Targets Accelerated by UV Light," V. A. Smalyuk, T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, D. Ofer, W. Seka, D. Shvarts, and C. P. Verdon, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Three-Dimensional Analysis of the Power Transfer Between Crossed Laser Beams," C. J. McKinstrie, A. V. Kanaev, V. T. Tikhonchuk, R. E. Giacone, and H. X. Vu, presented

at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Two-Dimensional Modeling of Imprint and Feedthrough in OMEGA Mix Spherical Experiments" by J. A. Delettrez, D. K. Bradley, and C. P. Verdon, presented at the 27th Annual Anomalous Absorption Conference, Vancouver, BC, Canada, 1–5 June 1997.

"Determination of the Third-Order Nonlinearities of Materials Using Frequency-Domain Interferometry," O. A. Konoplev, Y. Fisher, I. A. Walmsley, and D. D. Meyerhofer, presented at CLEO/QELS '97, Baltimore, MD, 18–23 May 1997.

"Diode-Pumped, Single-Frequency, Pulsed Master Oscillator for the 60-Beam OMEGA Laser Facility," A. V. Okishev and W. Seka, presented at CLEO/QELS '97, Baltimore, MD, 18–23 May 1997.

"Pulse-Shaping System Implementation on the 60-Beam OMEGA Laser," A. V. Okishev, W. Seka, J. H. Kelly, S. F. B. Morse, J. M. Soures, M. D. Skeldon, A. Babushkin, R. L. Keck, and R. G. Roides, presented at CLEO/QELS '97, Baltimore, MD, 18–23 May 1997.

"Thermal Distortions in Laser-Diode- and Flash-Lamp–Pumped Nd: YLF Laser Rods," M. D. Skeldon, R. Saager, A. Okishev, and W. Seka, presented at CLEO/QELS '97, Baltimore, MD, 18–23 May 1997.

"A Three-Dimensional Ponderomotive Trap for High-Energy Electrons," J. L. Chaloupka, T. J. Kessler, and D. D. Meyerhofer, presented at CLEO/QELS '97, Baltimore, MD, 18–23 May 1997.

"Integrated Circuit Tester Using Interferometric Imaging," W. R. Donaldson, E. M. R. Michaels, K. Akowuah, and R. A. Falk, presented at Diagnostic Techniques for Semiconductor Materials and Devices Montreal, Canada, 4 May 1997.

"The Effect of Increased Irradiation Uniformity on Imprinting by 351-nm Laser Light," T. R. Boehly, V. A. Smalyuk, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, C. P. Verdon, and D. Kalantar, presented at the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

"Feedthrough and Dynamic Stabilization in Convergent Geometry," R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, presented at the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

"Observation of Nonlinear Laser-Electron and Laser-Photon Scattering," D. D. Meyerhofer, C. Bamber, S. Boege, T. Koffas, T. Kotseroglou, A. C. Melissinos, D. Reis, C. Bula, K. T. McDonald, E. Prebys, D. L. Burke, C. Fields, G. Horton-Smith, A. C.

Odian, J. C. Spencer, D. Walz, S. Berridge, W. Bugg, K. Shmakov, and A. Weidemann, presented at the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

"OMEGA Experimental Program and Recent Results," W. Seka, A. Babushkin, T. R. Boehly, D. K. Bradley, M. D. Cable, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, R. L. Kremens, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, G. Pien, M. D. Skeldon, J. M. Soures, C. P. Verdon, B. Yaakobi, and J. D. Zuegel, presented at the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

"Pulse Shaping on the OMEGA Laser System," R. L. Keck, A. V. Okishev, M. D. Skeldon, A. Babushkin, and W. Seka, presented at the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

"Single-Mode Rayleigh–Taylor Growth-Rate Measurements with the OMEGA Laser System," J. P. Knauer, D. D. Meyerhofer, T. R. Boehly, D. Ofer, C. P. Verdon, D. K. Bradley, P. W. McKenty, V. A. Smalyuk, S. G. Glendinning, and R. G. Watt, presented at the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

"Planarization of Gratings Using Magnetorheological Finishing," F. Yang, D. Golini, D. H. Raguin, and S. D. Jacobs, presented at the MRS 1997 Spring Meeting, San Francisco, CA, 31 March–4 April 1997.

"A Single-Beam, Ponderomotive-Optical Trap for Energetic Free Electrons" by J. L. Chaloupka, T. J. Kessler, and D. D. Meyerhofer, presented at the 1997 Applications of High Field and Short Wavelength Soures VII (OSA), Santa Fe, NM, 19–22 March 1997.

"Picosecond Photoresponse in Polycrystalline Silicon," K. Green, M. Lindgren, C.-C. Wang, L. Fuller, T. Y. Hsiang, W. Seka, and R. Sobolewski, presented at Ultrafast Electronics and Optoelectronics, Incline Village, NV, 17–21 March 1997.

"Subpicosecond Electro-Optic Imaging Using Interferometric and Polarimetric Apparatus," D. Jacobs-Perkins, M. Currie, K. T. Tang, C.-C. Wang, C. Williams, W. R. Donaldson, R. Sobolewski, and T. Y. Hsiang, presented at Ultrafast Electronics and Optoelectronics, Incline Village, NV 17–21 March 1997.

"An Ultrafast High-$T_c$ Superconducting Y-Ba-Cu-O Photodetector," M. Lindgren, W.-S. Zeng, M. Currie, C. Williams, T. Y. Hsiang, P. M. Fauchet, R. Sobolewski, S. H. Moffat, R. A. Hughes, J. S. Preston, and F. A. Hegmann, presented at Ultrafast Electronics and Optoelectronics, Incline Village, NV, 17–21 March 1997.

"Inertial Confinement Fusion Experiments with OMEGA - A 30-kJ, 60-Beam UV Laser," T. R. Boehly, R. L. McCrory, C. P. Verdon, W. Seka, S. J. Loucks, A. Babushkin, R. E. Bahr, R. Boni, D. K. Bradley, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, D. Harding, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, J. P. Knauer, D. J. Lonobile, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. Okishev, S. Papernov, G. Pien, T. Safford, J. D. Schnittman, R. Short, M. J. Shoup, III, M. Skeldon, S. Skupsky, A. W. Schmid, V. A. Smalyuk, D. J. Smith, J. M. Soures, M. Wittman, and B. Yaakobi, presented at the 1997 IAEA Conference, Osaka, Japan, 10–14 March 1997.

"Status of Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R. L. McCrory and J. M. Soures, presented at Current Trends in International Fusion Research, Washington, DC, 10–14 March 1997.

"Collisionless Damping of Plasma Waves Propagating in Filaments and Consequences for SRS in Filaments," R. W. Short and A. Simon, presented at the 2nd International Workshop on Laser Plasma Interaction Physics Banff, Alberta, Canada, 19–22 February 1997.

"Scattered Light Spectra Taken on OMEGA Implosion Experiments" by A. V. Chirokikh, W. Seka, and J. A. Delettrez, presented at the 2nd International Workshop on Laser Plasma Interaction Physics Banff, Alberta, Canada, 19–22 February 1997.

"Sideward Simulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," C. J. McKinstrie, A. V. Kanaev, and E. J. Turano, presented at the 2nd International Workshop on Laser Plasma Interaction Physics Banff, Alberta, Canada, 19–22 February 1997.

"Diode-Pumped Single-Frequency Nd:YLF Laser for the 60-Beam OMEGA Laser Pulse-Shaping System," A. Okishev and W. Seka, presented at LASE '97, San Jose, CA, 8–14 February 1997.

"Stable, Reproducible, and Externally Synchronizable Regenerative Amplifier for Shaped Optical Pulses for the OMEGA Laser System," A. Babushkin, W. Bittle, S. A. Letzring, A. Okishev, M. D. Skeldon, and W. Seka, presented at the Twelfth Topical Meeting on Advanced Solid-State Lasers, Orlando, FL, 27–29 January 1997.

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"Brillouin Scattering of Picosecond Laser Pulses in Preformed, Short-Scale-Length Plasmas," A. C. Gaeris, Y. Fisher, J. A. Delettrez, and D. D. Meyerhofer, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Comparison of Laser and X-Ray Focal Images for a Single OMEGA Laser Beam," V. A. Smalyuk, T. R. Boehly, J. A. Delettrez, L. S. Iwan, T. J. Kessler, J. P. Knauer, F. J. Marshall, and D. D. Meyerhofer, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Convergence Studies of ICF Implosions Utilizing Doped-CH Ablators to Mitigate Instability Growth," P. W. McKenty, P. A. Jaanimagi, R. L. Kremens, K. J. Kearney, C. P. Verdon, and M. D. Cable, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Diffractive Calculation of the Intensity Distribution in a Direct-Drive Laser-Fusion Target Corona," R. W. Short, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Electron Acceleration by a Laser Pulse in a Plasma," E. A. Startsev and C. J. McKinstrie, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Feedthrough and Spatial-Temporal Evolution of the Ablative Rayleigh–Taylor Instability in ICF," V. Goncharov, R. Epstein, R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Fokker–Planck Simulations of Foam-Buffered Targets," R. P. J. Town, R. W. Short, and C. P. Verdon, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"High Temperature of Laser-Compressed Shells Measured with $KR^{+34}$ and $KR^{+25}$ X-Ray Lines," B. Yaakobi, F. J. Marshall, and R. Epstein, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Indirect-Drive Target Irradiation Experiments on OMEGA," J. M. Soures, J. P. Knauer, F. J. Marshall, D. K. Bradley, M. D. Cable, R. S. Craxton, R. L. Keck, J. H. Kelly, R. L. Kremens, R. L. McCrory, W. Seka, J. Schnittman, C. P. Verdon, T. J. Murphy, J. Wallace, J. A. Oertel, C. W. Barnes, N. D. Delamater, P. Gobby, A. A. Hauer, G. Magelssen, J. B. Moore, R. Watt, O. L. Landen, R. E. Turner, P. Amendt, C. Decker, L. J. Suter, B. A. Hammel, and R. J. Wallace, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Initial Mix Experiments on the 60-Beam OMEGA Laser System," D. K. Bradley, J. A. Delettrez, and P. A. Jaanimagi, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Initial Single-Mode Rayleigh–Taylor Growth Rates Measured with the OMEGA Laser System," J. P. Knauer, D. D. Meyerhofer, T. R. Boehly, D. Ofer, C. P. Verdon, D. K.

Bradley, P. W. McKenty, and V. A. Smalyuk, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Laser Imprinting Studies Using Multiple-UV-Beam Irradiation of Planar Targets," T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, R. L. Keck, J. A. Delettrez, V. A. Smalyuk, J. M. Soures, and C. P. Verdon, presented at the 38th Annual Meeting, APS Division of Plasma Physics Denver, CO, 11–15 November 1996.

"Laser–Plasma Interaction Experiments on the 60-Beam OMEGA Laser System," W. Seka, A. V. Chirokikh, A. Babushkin, R. W. Short, and A. Simon, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Modeling of Mix Due to the Rayleigh–Taylor Instability in Burnthrough Experiments Using the One-Dimensional Hydrodynamic Code *LILAC*," J. A. Delettrez, D. K Bradley, and C. P. Verdon, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"A Multichannel Neutron Time-of-Flight Spectrometer for Inertial Confinement Fusion Applications," R. L. Kremens, K. Kearney, M. A. Russotto, B. Taylor, J. D. Zuegel, and M. D. Cable, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Observation of Relativistic Ponderomotive Effects in Intense Laser–Electron Interactions," D. D. Meyerhofer, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996 (invited).

"OMEGA Experiments to Characterize the Rayleigh–Taylor Instability with Planar Foils," J. P. Knauer, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996 (invited).

"Performance of Planar Foam-Buffered Targets on the OMEGA Laser System," D. D. Meyerhofer, J. P. Knauer, T. R. Boehly, D. Ofer, C. P. Verdon, P. W. McKenty, V. A. Smalyuk, O. Willi, and R. G. Watt, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Shape, Pressure, and Kinetic Effects on the Resistive Wall Mode in Rotating Plasmas," R. Betti and J. P. Freidberg, presented at the 38th Annual Meeting, APS Division of Plasma Physics Denver, CO, 11–15 November 1996.

" 'Shine-Through' Experiments Using 50-ps Laser Pulses," Y. Fisher, T. R. Boehly, D. K. Bradley, J. A. Delettrez, D. Harding, and D. D. Meyerhofer, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Sideward Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," C. J. McKinstrie, E. J. Turano, and A. V. Kanaev, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Simulations in One Dimension of Unstable Mix in the Ablation Region in Laser-Driven Plasmas," R. Epstein, J. A. Delettrez, D. K. Bradley, C. P. Verdon, U. Alon, and D. Shvarts, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Spatiotemporal Evolution of Stimulated Raman Scattering," E. J. Turano and C. J. McKinstrie, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Spatiotemporal Interaction of Crossed Laser Beams," A. V. Kanaev, C. J. McKinstrie, and J. S. Li, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Surrogate Cryogenic Target Implosion Experiments Performed with the OMEGA Laser System," F. J. Marshall, D. K. Bradley, M. Cable, J. Delettrez, D. Harding, J. H. Kelly, J. P. Knauer, R. L. Kremens, S. A. Letzring, R. L. McCrory, S. F. B. Morse, J. M. Soures, C. P. Verdon, and B. Yaakobi, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Two Types of Raman Scattering in Hohlraums and Gasbags," A. Simon, presented at the 38th Annual Meeting, APS Division of Plasma Physics, Denver, CO, 11–15 November 1996.

"Uniformity in Tetrahedral Hohlraums," R. S. Craxton, J. D. Schnittman, and S. M. Pollaine, presented at the 38th Annual Meeting, APS Division of Plasma Physics Denver, CO, 11–15 November 1996.

"Coolant/Tool Interactions in Deterministic Microgrinding of Glass," B. E. Gillman, Y. Zhou, S. D. Jacobs, and B. M. Reed, presented at Superabrasives Technology 1996, Livermore, CA, 7–8 November 1996.

"Implementation of 30-ps Temporal Resolution Imaging on the OMEGA Laser System," D. K. Bradley and P. M. Bell, presented at the 22nd International Congress on High-Speed Photography and Photonics, Santa Fe, NM, 27 October–1 November 1996.

"Multicolor Fiducial Laser for Streak Cameras and Optical Diagnostics for the OMEGA Laser System," A. Babushkin, W. Seka, S. A. Letzring, W. Bittle, M. Labuzeta, M. Miller, and R. G. Roides, presented at the 22nd International Congress on High-Speed Photography and Photonics, Santa Fe, NM, 27 October–1 November 1996.

"Modeling of an Actively Stabilized Regenerative Amplifier for OMEGA Pulse-Shaping Applications," M. D. Skeldon, A. Babushkin, J. D. Zuegel, R. L. Keck, A. Okishev, and

W. Seka, presented at the Second Annual International Conference on Solid-State Lasers for Application to Inertial Confinement Fusion (ICF), Paris, France, 22–25 October 1996.

"Cancellation of the *B*-Integral for CPA Lasers," O. A. Konoplev and D. D. Meyerhofer, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Colorimetry of Cholesteric Liquid Crystals," E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Design of Continuous Surface-Relief Phase Plates by Simulated Annealing to Achieve Control of Focal Plane Irradiance," Y. Lin, T. J. Kessler, and G. N. Lawrence, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Measurements of an Ionized Electron's Initial Canonical Momentum with a Linearly Polarized, High-Intensity Laser," S. J. McNaught, J. P. Knauer, and D. D. Meyerhofer, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Near Field and Spatial Coherence of the Third Harmonic Produced in a Noble Gas Target," M. S. Adams and D. D. Meyerhofer, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Observation of Relativistic Mass Shift Effects During High-Intensity Laser-Electron Interactions," D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Optic Fabrication Using Photographic Lithography," T. J. Kessler, L. S. Iwan, J. Barone, C. Kellogg, and W. P. Castle, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Producing Aspheres with Magnetorheological Finishing," S. D. Jacobs, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996 (invited).

"Reflective Nonlinearities of Nonabsorbing Chiral Liquid Crystals: Frustration of Selective Reflection by Powerful Laser Radiation," K. S. Lebedev, E. A. Magulariya, S. G. Lukishova, S. V. Belyaev, N. V. Malimonenko, and A. W. Schmid, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Second-Harmonic Generation from Oscillating Free Electrons in a Laser Focus," J. L. Chaloupka and D. D. Meyerhofer, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"Self- and Cross-Phase Modulation Coefficients in KDP Crystals Measured by a *Z*-Scan Technique," L. Zheng and D. D. Meyerhofer, presented at the OSA Annual Meeting/ILS-XII, Rochester, NY, 20–25 October 1996.

"The First Year of ICF Experiments on OMEGA—A 60-Beam, 60-TW Laser System," T. R. Boehly, R. L. McCrory, S. J. Loucks, J. M. Soures, C. P. Verdon, A. Babushkin, R. E. Bahr, R. Boni, D. K. Bradley, D. L. Brown, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, J. P. Knauer, S. A. Kumpan, S. A. Letzring, D. J. Lonobile, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. Okishev, S. Papernov, G. Pien, W. Seka, R. Short, M. J. Shoup, III, M. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. Wittman, and B. Yaakobi, presented at the 16th IAEA Fusion Energy Conference Montreal, Canada, 7–11 October 1996.

"High Laser-Induced-Damage Threshold Polarizer Coatings for 1054 nm," D. J. Smith, J. F. Anzellotti, S. Papernov, and Z. R. Chrzan, presented at the 28th Annual Boulder Damage Symposium on Laser-Induced Damage in Optical Materials, Boulder, CO, 7–9 October 1996.

"Multiphoton–Electron Scattering Experiments," D. D. Meyerhofer, presented at the International Conference on Multiphoton Physics, Garmish-Partenkirchen, Germany, 30 September–4 October 1996.

"An Overview of the Tritium-Filling Capabilities at the Laboratory for Laser Energetics," M. D. Wittman, S. A Letzring, K. J. Lintz, S. Scarantino, D. R. Harding, S. J. Loucks, J. M. Soures, W. T. Shmayda, and R. Matsugu, presented at the Eleventh Target Fabrication Specialists' Meeting, Orcas Island, WA, 9–12 September 1996.

"Retention of $D_2$ and DT in Plastic Shell Targets Using Thin Aluminum Layers," M. Bonino, R. Q. Gram, D. Harding, S. Noyes, J. Soures, and M. Wittman, presented at the Eleventh Target Fabrication Specialists' Meeting, Orcas Island, WA, 9–12 September 1996.

"Nonlinear Bleaching of Non-absorbing Cholesteric Liquid-Crystal Mirrors by cw and Pulsed High-Power Laser Radiation," S. G. Lukishova, K. S. Lebedev, E. A. Magulariya, S. V. Belyaev, N. V. Malimonenko, and A. W. Schmid, presented at Europe-EQEC '96, Hamburg, Germany 8–13 September 1996.

"Ultrashort-Pulse Laser Technique to Measure Crystal Axis Orientation," O. A. Konoplev, L. Zheng, and D. D. Meyerhofer, presented at SOMR-96, Rochester, NY, 28 August 1996.

"Ablative Rayleigh–Taylor Instability: Applications of the Linear Theory to Target Designs Relevant to Inertial Confinement Fusion," V. N. Goncharov, R. Betti, R. L.

McCrory, and C. P. Verdon, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Brillouin Scattering of Picosecond Laser Pulses in Preformed, Short-Scale-Length Plasmas," A. C. Gaeris, Y. Fisher, J. A. Delettrez, and D. D. Meyerhofer, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Diagnosing High-$\rho R$ Implosions Using Elastically Scattered DT Neutrons," S. Cremer and S. Skupsky, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Dynamic Stability and Linear Feedthrough in ICF Implosions," R. Betti, R. Epstein, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Electron Acceleration by a Laser Pulse in a Plasma," E. A. Startsev and C. J. McKinstrie, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Filamentation of Laser Light in Inhomogeneous Plasmas: Effects of Refraction and Plasma Flow," R. W. Short, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Fokker–Planck Simulations of Foam-Buffered Targets," R. P. J. Town, R. W. Short, and C. P. Verdon, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Initial Mix Experiments on the 60-Beam OMEGA Laser System," D. K. Bradley, J. A. Delettrez, and P. A. Jaanimagi, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Laser Imprinting Studies Using Multiple-UV-Beam Irradiation of Planar Targets," T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, R. L. Keck, J. A. Delettrez, V. A. Smalyuk, J. M. Soures, and C. P. Verdon, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Modeling of Mix Due to the Rayleigh–Taylor Instability in Burnthrough Experiments Using the One-Dimensional Hydrodynamic Code *LILAC*," J. A. Delettrez, D. K. Bradley, and C. P. Verdon, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Multiple-Scale Derivation of the Relativistic Ponderomotive Force," C. J. McKinstrie and E. A. Startsev, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Plasma Diagnostics on OMEGA," W. Seka and A. V. Chirokikh, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Power Exchange Between Crossed Laser Beams and the Associated Frequency Cascade," V. A. Smalyuk, C. J. McKinstrie, R. E. Giacone, and H. X. Vu, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Raman Scattering in Gas-Filled Hohlraums and Gasbags," A. Simon, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Spatiotemporal Evolution of Stimulated Raman Scattering," E. J. Turano and C. J. McKinstrie, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Tetrahedral Hohlraums—A Way to Achieve Time-Independent Uniformity on the NIF," R. S. Craxton and J. D. Schnittman, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Tetrahedral Hohlraums on the NIF," J. D. Schnittman and S. M. Pollaine, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"Time-Averaging of Irradiation Nonuniformity in Laser-Driven Plasmas Due to Target Ablation," R. Epstein, presented at the 26th Anomalous Absorption Conference, Fairbanks, AK, 26–30 August 1996.

"$YBa_2Cu_3O_{7-x}$ Thin-Film Picosecond Photoresponse in the Resistive State," M. Lindgren, M. Currie, C. Williams, S. H. Moffat, R. A. Hughes, F. A. Hegmann, J. S. Preston, T. Y. Hsiang, P. M. Fauchet, and R. Sobolewski, presented at the 1996 Applied Superconductivity Conference, Pittsburgh, PA, 25–30 August 1996.

"Chemomechanical Aspects of Material Removal with Magnetorheological Finishing," S. D. Jacobs and D. Golini, presented at A Workshop on Chemical-Mechanical Polishing Lake Placid, NY, 18–21 August 1996.

"Laser-Induced Modification of the Critical Current in Y-Ba-Cu-O Step-Edge Josephson Junctions," R. Adam, W. Kula, J. M. Murduck, C. Pettiette-Hall, and R. Sobolewski, presented at the XXI International Conference on Low Temperature Physics, Prague, Czech Republic, 8–14 August 1996.

"Picosecond Photoresponse of $YBa_2Cu_30_{7-x}$ Thin Films," M. Lindgren, M. Currie, C. Williams, S. H. Moffat, R. A. Hughes, F. A. Hegmann, J. S. Preston, T. Y. Hsiang, and R. Sobolewski, presented at the XXI International Conference on Low Temperature Physics, Prague, Czech Republic, 8–14 August 1996.

"Multiphoton-Electron Scattering Experiments," D. D. Meyerhofer, presented at the International Conference on Atomic Physics, Amsterdam, Netherlands, 4–9 August 1996.

"Novel Vitrifiable Liquid Crystalline Materials," S.-H. Chen, H. Shi, B. M. Conger, and J. C. Mastrangelo, International LCD Symposium, Hsin-Chu, Taiwan, 8–9 July 1996 (invited).

"Nonlinear Bleaching in the Selective Reflection of Nonabsorbing Chiral-Nematic Liquid-Crystal Thin Films," S. G. Lukishova, S. V. Belyaev, K. S. Lebedev, E. A. Magulariya, A. W. Schmid, and N. V. Malimonenko, presented at the 16th International Liquid Crystal Conference, Kent, Ohio, 24–28 June 1996.

"Recent Experimental Results from the OMEGA Laser-Fusion Facility," J. P. Knauer, S. J. Loucks, R. L. McCrory, J. M. Soures, C. P. Verdon, A. Babushkin, R. E. Bahr, T. R. Boehly, R. Boni, D. K. Bradley, D. L. Brown, J. A. Delettrez, R. S. Craxton, W. R. Donaldson, R. Epstein, R. Q. Gram, D. R. Harding, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Letzring, D. J. Lonobile, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. Okishev, S. Papernov, G. Pien, W. Seka, R. W. Short, M. J. Shoup, III, M. D. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. D. Wittman, and B. Yaakobi, presented at the 12th Topical Meeting on the Technology of Fusion Energy Reno, NV, 16–20 June 1996.

"The Role of the Laboratory for Laser Energetics in the National Ignition Facility Project," J. M. Soures, S. J. Loucks, R. L. McCrory, C. P. Verdon, A. Babushkin, R. E. Bahr, T. R. Boehly, R. Boni, D. K. Bradley, D. L. Brown, J. A. Delettrez, R. S. Craxton, W. R. Donaldson, R. Epstein, R. Q. Gram, D. R. Harding, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, J. P. Knauer, S. A. Letzring, D. J. Lonobile, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, S. Papernov, G. Pien, W. Seka, R. W. Short, M. J. Shoup, III, M. D. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. D. Wittman, and B. Yaakobi, presented at the 12th Topical Meeting on the Technology of Fusion Energy, Reno, NV, 16–20 June 1996.

"Linear Theory of the Ablative Rayleigh–Taylor Instability," R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, presented at the 24th European Conference on Laser Interaction with Matter (24th ECLIM), Madrid, Spain, 3–7 June 1996.

"Cancellation of *B*-Integral Accumulation in CPA Lasers," O. A. Konoplev and D. D. Meyerhofer, presented at CLEO/QELS '96, Anaheim, CA, 2–7 June 1996.

"Comparative Investigation of Fast Photodetector Responses to Complex Shaped Optical Pulses," A. Okishev, M. D. Skeldon, S. A. Letzring, R. Boni, and W. Seka, presented at CLEO/QELS '96, Anaheim, CA, 2–7 June 1996.

"Irradiation Uniformity Studies and Fusion Experiments on the OMEGA Laser Facility," T. R. Boehly, R. S. Craxton, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S.

Skupsky, J. M. Soures, M. D. Tracy, and C. P. Verdon, presented at CLEO/QELS '96, Anaheim, CA, 2–7 June 1996.

"Off-Line Tuning of KDP Frequency Conversion Crystals for the Laboratory for Laser Energetics 60-Beam OMEGA Laser," M. J. Guardalben, presented at CLEO/ QELS '96, Anaheim, CA, 2–7 June 1996.

"Performance of the OMEGA Nd:Glass Laser System," J. H. Kelly, R. L. Keck, T. J. Kessler, S. A. Letzring, S. Skupsky, D. L. Brown, T. A. Safford, W. Seka, A. Babushkin, T. R. Boehly, P. A. Jaanimagi, A. Okishev, and S. F. B. Morse, presented at CLEO/QELS '96, Anaheim, CA, 2–7 June 1996 (invited).

"Stable, Reproducible, and Externally Synchronizable Regenerative Amplifier for Shaped Optical Pulses for the OMEGA Laser System," A. Babushkin, W. Bittle, S. A. Letzring, A. Okishev, W. Skeldon, and W. Seka, presented at CLEO/QELS '96, Anaheim, CA, 2–7 June 1996.

"Measurements of the ac Tunneling Ionization Phase with a Linearly Polarized, High-Intensity Laser," S. J. McNaught, J. P. Knauer, and D. D. Meyerhofer, presented at the 1996 Annual Meeting of the Division of Atomic, Molecular, and Optical Physics, Ann Arbor, MI, 15–18 May 1996.

"Observation of Relativistic Mass Shift Effects During High-Intensity Laser–Electron Interactions," D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, presented at the 1996 Annual Meeting of the Division of Atomic, Molecular, and Optical Physics, Ann Arbor, MI, 15–18 May 1996.

"Precise Test of Tunneling Theories by the Laser Ionization of Hydrogenic Helium," B. Buerke, J. P. Knauer, S. J. McNaught, C. I. Moore, and D. D. Meyerhofer, presented at the 1996 Annual Meeting of the Division of Atomic, Molecular, and Optical Physics, Ann Arbor, MI, 15–18 May 1996.

"Spatial Coherence of Third Harmonic Produced by High-Intensity Interaction in a Noble Gas," M. S. Adams and D. D. Meyerhofer, presented at the 1996 Annual Meeting of the Division of Atomic, Molecular, and Optical Physics, Ann Arbor, MI, 15–18 May 1996.

"The OMEGA Laser Electronic Timing System," R. L. Kremens, J. T. Canosa, D. L. Brown, T. H. Hinterman, M. Litchfield, D. Lonobile, R. G. Roides, M. Thomas, and R. Weaver, 11th Topical Conference on High-Temperature Plasma Diagnostics, Monterey, CA, 12–16 May 1996.

"Magnetorheological Fluid Composition and Enhanced Material Removal Rates with Nanodiamonds," S. D. Jacobs, E. Fess, B. E. Gillman, H. Edwards, D. Golini, W. I. Kordonski, V. W. Kordonski, I. Prokhorov, and F. Yang, presented at the OSA Topical Meeting on Optical Fabrication and Testing, Boston, MA, 29 April–3 May 1996.

"New Developments in Bound Abrasive Polishing of Optical Glass on Opticam® Machining Centers," B. E. Gillman, S. D. Jacobs, and S. E. Snyder, presented at the OSA Topical Meeting on Optical Fabrication and Testing, Boston, MA. 29 April–3 May 1996.

"Toward a Mechanical Mechanism for Material Removal in Magnetorheological Finishing," J. Lambropoulous, F. Yang, and S. D. Jacobs, presented at the OSA Topical Meeting on Optical Fabrication and Testing, Boston, MA, 29 April–3 May 1996.

"Vertical Wheel Magnetorheological Finishing Machine for Flats, Convex, and Concave Surfaces," W. I. Kordonski, S. D. Jacobs, D. Golini, E. Fess, D. Strafford, J. Ruckman, and M. Bechtold, presented at the OSA Topical Meeting on Optical Fabrication and Testing, Boston, MA, 29 April–3 May 1996.

"Laser Ablation of Dental Hard Tissue: From Explosive Ablation to Plasma-Mediated Ablation," W. Seka, J. D. B Featherstone, D. Fried, S. R. Visuri, and J. T. Walsh, presented at BiOS '96/Lasers in Dentistry II, San Jose, CA 27 January–2 February 1996.

"Dynamic Range Limitations in High-Contrast, Noncollinear Autocorrelators," O. A. Konoplev and D. D. Meyerhofer, presented at SPIE's 1996 Symposium on Lasers and Integrated Optoelectronics, San Jose, CA, 27 January–2 February 1996.

"Studies of Nonlinear QED with an Ultra-Intense Laser," T. Kotseroglou, C. Bamber, S. Boege, U. Haug, A. C. Melissinos, D. D. Meyerhofer, W. Ragg, C. Bula, K. T. McDonald, E. Prebys, D. L. Burke, P. Chen, R. C. Field, G. Horton-Smith, A. C. Odian, J. C. Spencer, D. Walz, S. Berridge, W. Bugg, K. Shmakov, and A. Weidemann, presented at SPIE's 1996 Symposium on Lasers and Integrated Optoelectronics, San Jose, CA, 27 January–2 February 1996.

"Temporal Measurements of Weak, Ultrafast, Light Pulses," D. D. Meyerhofer, D. Reiss, and L. Zheng, presented at SPIE's 1996 Symposium on Lasers and Integrated Optoelectronics, San Jose, CA, 27 January–2 February 1996.

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"Model of Magnetorheological Finishing," W. Kordonski and S. Jacobs, presented at the 6th International Conference on Adaptive Structures Technology, Key West, Florida, 13–15 November, 1995.

"Characterization of a Long-Scale-Length Plasma Using SRS and Thomson Scattering," W. Seka, R. S. Craxton, C. Labaune, H. A. Baldis, N. Renard, E. Schifano, and A. Michard, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Comparison of a One-Dimensional Mix Model for the Linear and Weakly Nonlinear Regime of the Rayleigh–Taylor Instability with Two-Dimensional *ORCHID* Results," J.

A. Delettrez, D. K. Bradley, and C. P. Verdon, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Cryogenic Target System for the OMEGA Laser System," S. A. Letzring, R. L. Fagaly, N. B. Alexander, R. A. Mangano, and C. R. Gibson, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Diagnosis of High-Temperature Implosions Using Low- and High-Opacity Krypton Lines," B. Yaakobi, R. Epstein, C. F. Hooper, Jr., D. A. Haynes, Jr., and Q. Su, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Diffractive Irradiation Patterns in a Spherically Symmetric Target Corona," R. W. Short and R. Grobe, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Direct-Drive Laser-Fusion Experiments with the OMEGA, 60-Beam, >40-kJ, UV Laser System," J. M. Soures, R. L. McCrory, C. P. Verdon, A. Babushkin, R. E. Bahr, T. R. Boehly, R. Boni, D. K. Bradley, D. L. Brown, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, J. P. Knauer, S. A. Kumpan, S. A. Letzring, D. J. Lonobile, S. J. Loucks, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, S. Papernov, G. Pien, W. Seka, R. W. Short, M. J. Shoup, III, M. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. Wittman, and B. Yaakobi, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995 (invited).

"Effects of the Anti-Stokes Wave on Stimulated Brillouin Scattering," J. S. Li and C. J. McKinstrie, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"The Energy-Balance Diagnostic for the OMEGA Laser System," R. Boni, R. L. Keck, T. R. Boehly, O. R. Lopez-Raffo, S. A. Letzring, and S. Scarantino, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Implosion Experiments on the Upgraded OMEGA Laser," P. Jaanimagi, R. L. Kremens, P. W. McKenty, D. K. Bradley, K. Kearney, and C. P. Verdon, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Inertial Confinement Fusion Capsule Performance Under the Influence of Long-Wavelength Illumination Nonuniformities," P. W. McKenty, C. P. Verdon, and D. K. Bradley, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Initial Performance Results from the OMEGA Laser Facility," T. R. Boehly, D. L. Brown, R. S. Craxton, R. L. Keck, J. P. Knauer, J. H. Kelly, T. J. Kessler, S. J. Loucks, S. A. Letzring, F. J. Marshall, R. L. McCrory, S. F. B. Morse, W. Seka, J. M. Soures, and C. P. Verdon, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Interaction of Crossed Laser Beams in Homogeneous Plasma," C. J. McKinstrie, R. E. Giacone, and H. X. Vu, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Ion Jets and Recent Brillouin Experiments," A. Simon, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Kinetic Effects on the Resistive Wall Mode," R. Betti, S. Cowley, and J. P. Freidberg, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Monochromatic X-Ray Imaging of Laser-Fusion Targets Using a Kirkpatrick–Baez X-Ray Microscope," F. J. Marshall, A. Hauer, J. Oertel, and R. Watt, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Neutron Diagnostic Implementation on the OMEGA Laser System," R. L. Kremens, K. Kearney, and M. A. Russotto, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"A Precision Electronic Timing System for the OMEGA Laser System," R. L. Kremens, D. L. Brown, J. T. Canosa, M. Litchfield, D. Lonobile, R. G. Roides, M. Thomas, and R. Weaver, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Relativistic Ponderomotive Force of a Light Wave," E. A. Startsev and C. J. McKinstrie, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Self-Consistent Cutoff Wave Number of the Ablative Rayleigh–Taylor Instability," V. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Simulations in One Dimension of Fuel–Pusher Mixing in Laser-Driven Implosions," R. Epstein, J. A. Delettrez, C. P. Verdon, U. Alon, and D. Shvarts, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Simulations of SBS in Long-Scale-Length Laser Plasmas of Variable Density: The Inability of Linear Theory to Explain Experimental Observations," A. V. Chirokikh, A.

Simon, W. Seka, and R. S. Craxton, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Time-Resolved Imaging on the Upgraded OMEGA Laser System," D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, and P. M. Bell, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Two-Dimensional Stimulated Raman Scattering of Short Laser Pulses," E. J. Turano, C. J. McKinstrie, and R. E. Giacone, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Two-Dimensional SSD and Polarization Wedges for OMEGA and the National Ignition Facility," R. S. Craxton and S. Skupsky, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"Uniformity Experiments on the University of Rochester's OMEGA 60-Beam, 30-kJ, UV Laser-Fusion Facility," F. J. Marshall, R. L. Keck, T. R. Boehly, J. P. Knauer, S. F. B. Morse, and J. M. Soures, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"X-Ray Backlighting Imaging of Mixed Imploded Targets," B. Yaakobi, D. Shvarts, R. Epstein, and Q. Su, presented at the 37th Annual Meeting, APS Division of Plasma Physics, Louisville, KY, 6–10 November 1995.

"The Effect of Coolant Surface Tension in Deterministic Microgrinding of Glass," J. C. Lambropoulos, T. Fang, B. Puchebner, and S. D. Jacobs, presented at the International Symposium on Manufacturing Practices and Technologies, New Orleans, LA, 5–8 November 1995.

"Upconversion and Reduced $^4F_{3/2}$ Upper-State Lifetimes in Intensely Pumped Nd:YLF," J. D. Zuegel and W. Seka, presented at the LEOS '95 8th Annual Meeting, San Francisco, CA, 30 October–2 November 1995.

"AFM-Mapped, Nanoscale, Absorber-Driven Laser Damage in UV High-Reflector Multilayers," S. Papernov, A. W. Schmid, J. Anzelotti, D. Smith, and Z. R. Chrzan, presented at the XXVII Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 30 October–1 November 1995.

"Initial Results from the Upgrade to the OMEGA Laser Facility and Plans for a Cryogenic Target System," S. A. Letzring, presented at the 42nd National Symposium of the American Vacuum Society, Minneapolis, MN, 16–20 October 1995.

"X-Ray Microtomography for Characterizing Inertial Confinement Fusion Spherical Capsules," H. Kim, S. J. Pan, and P. C. Cheng, 13th International Conference Vacuum Congress, presented at the 9th International Conference on Solid Surfaces, Conference Center PACIFICO, Yokohama, Japan, 25–29 September 1995.

"Organic Thin Films on the 30-kJ OMEGA Glass Laser System," A. W. Schmid, T. J. Kessler, K. L. Marshall, and W. J. Armstrong, presented at Organic Thin Films '95, Portland, OR, 11–14 September 1995.

"Deterministic Magnetorheological Finishing of Spheres and Aspheres," S. D. Jacobs, presented at the OSA Annual Meeting, Portland, ORegon, 10–15 September 1995 (invited).

"Optical Coating Technology for the Upgraded OMEGA Laser," D. J. Smith, presented at the OSA Annual Meeting, Portland, OR, 10–15 September 1995.

"Design, Synthesis, and Stability of Organic Glasses for Advanced Optical Applications," J. C. Mastrangelo, H. Shi, S.-H. Chen, and T. N. Blanton, presented at the American Chemical Society National Meeting, Chicago, IL, 20–24 August 1995.

"Terahertz Dispersion of Coplanar Waveguides and Waveguide Bends," T. Y. Hsiang, S. Alexandrou, R. Sobolewski, and C.-C. Wang, presented at the Progress in Electromagnetics Research Symposium, Seattle, WA, 24–28 July 1995.

"Design Considerations for the OMEGA Upgrade Final Focus Lens," C. T. Cotton, presented at the International Symposium on Optical Science, Engineering, and Instrumentation, San Diego, CA, 9–14 July 1995.

"Development of New Bound Abrasive Polishers for Final Finishing of Optical Glasses," B. E. Puchebner and S. D. Jacobs, presented at the International Symposium on Optical Science, Engineering, and Instrumentation, San Diego, CA, 9–14 July 1995.

"Photoelectron Throughput in Streak Tubes," P. A. Jaanimagi and A. Mens, presented at the International Symposium on Optical Science, Engineering, and Instrumentation, San Diego, CA, 9–14 July 1995.

"Electro-Optic Measurements of Single-Flux Quantum Pulses," C.-C. Wang, M. Currie, D. Jacobs-Perkins, R. Sobolewski, T. Y. Hsiang, and M. J. Feldman, presented at the European Conference on Applied Superconductivity, Edinburgh, Scotland 3–6 July 1995.

"Y-Ba-Cu-O Thin-Film Structures with a Nonuniform In-Depth Oxygen Concentration Profile," W. Kula, R. Adam, and R. Sobolewski, presented at the European Conference on Applied Superconductivity, Edinburgh, Scotland 3–6 July 1995.

"The Activation of the Upgraded OMEGA Laser at the University of Rochester," J. H. Kelly, T. R. Boehly, J. M. Soures, D. L. Brown, R. Boni, R. S. Craxton, R. L. Keck, T. J. Kessler, R. Kremens, S. A. Kumpan, S. A. Letzring, S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, and C. P. Verdon, presented at the 8th Laser Optics '95 Conference, St. Petersburg, Russia, 27 June–1 July 1995.

"The Pulse-Shaping System for the 60-Beam, 30-kJ (UV) OMEGA Laser," A. V. Okishev, M. D. Skeldon, S. A. Letzring, W. R. Donaldson, A. Babushkin, and W. Seka, presented at the 8th Laser Optics '95 Conference, St. Petersburg, Russia, 27 June–1 July 1995.

"Characterization of Y-Ba-Cu-O Thin Films Containing Regions of Different Oxygen Content and Superconducting/Semiconducting Interfaces," W. Kula, W. Xiong, B. McIntyre, R. Sobolewski, D. B. Dukes, and A. D. Caplin, presented at the 1995 International Workshop on Superconductivity, Maui, HI, 18–21 June 1995.

"Photo-Induced Changes of the Transport Properties in Y-Ba-Cu-O Step-Edge Josephson Junctions," R. Adam, W. Kula, R. Sobolewski, J. M. Murduck, and C. Patiette-Hall, presented at the 1995 International Workshop on Superconductivity, Maui, HI, 18–21 June 1995.

"Y-Ba-Cu-O Thin Films with a Controlled, Oxygen In-Depth Profile for Hybrid Superconducting/Semiconducting Device Applications," W. Kula, R. Adam, and R. Sobolewski, presented at the 1995 International Workshop on Superconductivity, Maui, HI, 18–21 June 1995.

"Atomic Force Microscopy in Support of the Laser-Driven ICF Program," S. Papernov, A. W. Schmid, D. J. Smith, A. Anzelotti, J. P. Knauer, P. W. McKenty, and M. D. Wittman, presented at the Scanning Microscopy 1995 Meeting, Houston, TX, 6–11 May 1995.

"Applications and Processes for High-Damage-Threshold Sol-Gel Coatings," A. R. Staley and D. J. Smith, presented at the Optical Interference Coatings Topical Meeting, Tucson, AZ, 5–9 June 1995.

"Characterization of Surface Particulate on Large Optics for Laser Fusion," A. L. Rigatti, D. J. Smith, L. D. Lund, P. Glenn, and J. Glenn, presented at the Optical Interference Coatings Topical Meeting, Tucson, AZ, 5–9 June 1995.

"The Improvement of Evaporated Dielectric Polarizer and Beam Splitter Coatings Through the Use of Multiple Crystal Monitoring," J. F. Anzellotti, D. J. Smith, and Z. R. Chrzan, presented at the Optical Interference Coatings Topical Meeting, Tucson, AZ, 5–9 June 1995.

"Induced Stresses to Optical Substrates Due to High-Energy-Laser HR Thin-Film Coatings," S. J. Van Kerkhove, and D. J. Smith, presented at the Optical Interference Coatings Topical Meeting, Tucson, AZ, 5–9 June 1995.

"A Single-Pass Laser Reflectometer: Conceptual Goals and Physical Results," R. J. Sczupak and D. J. Smith, presented at the Optical Interference Coatings Topical Meeting, Tucson, AZ, 5–9 June 1995.

"Magnetorheological Finishing: A Deterministic Process for Optics Manufacturing," S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, W. I. Kordonsky, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonsky, presented at the SPIE Japan Chapter International Joint Conference on Optical Fabrication and Testing and Applications of Optical Holography, Tokyo, Japan, 5–7 June 1995 (invited).

"Transient Microwave Bandwidth Measurements of Illuminated Silicon Switches for Optical Pulse-Shape Control of Laser-Fusion Drivers," K. Green, W. R. Donaldson, R. Sobolewski, M. D. Skeldon, W. Seka, A. Okishev, and S. A. Letzring, presented at the 1st Annual International Conference on Solid-State Lasers for Application to Inertial Confinement Fusion (ICF), Monterey, CA, 30 May–2 June 1995.

"Transient Stimulated Brillouin Scattering Pulse Compression for Photoconductive Switch Activation," M. D. Skeldon, A. Okishev, A. Babushkin, and W. Seka, presented at the 1st Annual International Conference on Solid-State Lasers for Application to Inertial Confinement Fusion (ICF), Monterey, CA, 30 May–2 June 1995.

"Diffractive Irradiation Patterns Inside the Plasma Corona," R. Grobe and R. W. Short, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"The Effect of Finite Thermal Conduction on the Ablative Rayleigh–Taylor Instability," V. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Effects of the Anti-Stokes Wave on Stimulated Brillouin Scattering," C. J. McKinstrie and J. S. Li, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Growth Rate of the Rayleigh–Taylor Instability for Indirect-Drive ICF," R. Betti, V. Goncharov, R. L. McCrory, and C. P. Verdon, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"The Knock-On's Diagnostic in Laser ICF Targets Revisited," S. Cremer, S. Skupsky, C. P. Verdon, and J. A. Delettrez, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"A Mix Model in *LILAC* for the Linear and Weakly Nonlinear Regime of the Rayleigh–Taylor Instability," J. Delettrez, D. K. Bradley, and C. P. Verdon, B. Yaakobi, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Numerical Simulations of Two-Dimensional Stimulated Raman Scattering in an Inhomogeneous Plasma," T. Kolber, C. J. McKinstrie, S. J. McNaught, and C. I. Moore, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Observation of Relativistic Quiver Effects and Multiphoton Compton Scattering During High-Intensity Laser-Electron Interactions," D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Parametric Excitation of Electron Bernstein Waves in Laser-Produced Plasma," A. Simon, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Phase-Conjugated SBS in Laser-Produced Plasmas," R. W. Short, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Prospects for Direct- and Indirect-Drive ICF on the OMEGA Laser," R. S. Craxton, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995 (invited).

"Simulations of Time-Dependent Spectral Signatures of Fuel-Pusher Mixing in Laser-Driven Implosions," R. Epstein, J. A. Delettrez, C. P. Verdon, D. Shvarts, and B. Yaakobi, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Tetrahedral Hohlraums for the OMEGA Upgrade and the National Ignition Facility," J. D. Schnittman and R. S. Craxton, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Thermal Filamentation of Laser Beams," J. S. Li, C. J. McKinstrie, C. Joshi, and K. Marsh, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Two-Dimensional Stimulated Raman Scattering of Short Laser Pulses," E. J. Turano, C. J. McKinstrie, and R. E. Giacone, presented at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995.

"Complex Multigigahertz Electrical Waveform Generation for Optical Pulse Shaping on the OMEGA Laser," A. V. Okishev, M. D. Skeldon, S. A. Letzring, W. R. Donaldson, K. Green, W. Seka, and L. Fuller, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"The Design of an Energy Balance Measurement Diagnostic for the Upgraded OMEGA Laser System," R. Boni, R. L. Keck, O. R. Lopez-Raffo, S. A. Letzring, and S. Scarantino, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Direct and Indirect Laser Fusion," R. L. McCrory, presented at CLEO '95, Baltimore, MD, 21–26 May 1995 (invited).

"Distributed Phase Plates with Low Scattering Loss for Supergaussian Focal Plane Irradiance Profiles," Y. Lin, T. J. Kessler, and G. N. Lawrence, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Effects of Residual Dispersion in the Phase-Conjugation Fiber on Dispersion Compensation in Optical Communication Systems," M. Yu, G. P. Agrawal, and C. J. McKinstrie, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Fabrication of Large-Aperture Diffractive and Refractive UV Optical Components Using Continuous-Mask Photolithography and Replication," J. J. Armstrong, T. J. Kessler, L. S. Iwan, W. P. Castle, A. W. Schmid, C. Kellogg, J. Barone, and R. Stewart, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Initial Energy Measurements of the Upgraded OMEGA Laser," R. L. Keck, R. E. Bahr, R. Boni, S. A. Letzring, W. Seka, and J. M. Soures, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Initial Performance Results from the Upgraded OMEGA Laser," T. R. Boehly, R. S. Craxton, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Letzring, S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, M. D. Tracy, and C. P. Verdon, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Pedestal Suppression Technique for Chirped Pulse Amplification Laser Using Optical Pulse Cleaning and a Fast Saturable Absorber," O. A. Konoplev, Y. Fisher, and D. D. Meyerhofer, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Polarization Rotation in Harmonic Generation of Ultra-Intense Laser Pulses," L. Zheng, D. D. Meyerhofer, and R. S. Craxton, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"A Precision Electronic Timing System for the OMEGA Upgrade Inertial Fusion Laser System," R. L. Kremens, D. L. Brown, J. T. Canosa, S. A. Letzring, M. Listchfield, R. G. Roides, and M. Thomas, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Progress on Amplification of Optically Shaped Pulses to the Multijoule Level," M. D. Skeldon, A. Okishev, S. A. Letzring, W. R. Donaldson, A. Babushkin, and W. Seka, presented at CLEO '95, Baltimore, MD, 21–26 May 1995.

"Direct Mid-Infrared Spectroscopic Measurements of Hole Relaxation in InGaAs/A1GaAs, Quantum Wells," Z. Xu, P. M. Fauchet, C. W. Rella, B. A. Richman, H. A. Schwettman, and G. W. Wicks, presented at QELS '95, Baltimore, MD, 21–26 May 1995.

"Ultrafast Carrier Dynamics in Porous Silicon," P. M. Fauchet, J. von Behren, K. B. Ucer, and Y. Kostoulas, presented at QELS '95, Baltimore, MD, 21–26 May 1995.

"Finish Polishing of Optics with Magnetic Media," S. D. Jacobs, presented at the 8th International Precision Engineering Seminar, Compiegne, France, 15–19 May 1995.

"Magnetorheological Finishing: Toward Cylinders, Toroids, and Aspheric Optics" by S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, W. I. Kordonsky, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonsky, presented at the 8th International Precision Engineering Seminar, Compiegne, France, 15–19 May 1995.

"Experiments on the OMEGA to Validate High-Gain, Direct-Drive Performance on the National Ignition Facility," R. L. McCrory, J. M. Soures, C. P. Verdon, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, H. Kim, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, F. J. Marshall, P. W. McKenty, S. F. B. Morse, A. V. Okishev, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, M. Tracy, and B. Yaakobi, presented at the 12th International Conference on Laser Interaction and Related Plasma Phenomena, Osaka, Japan, 24–28 April 1995.

"All-Silicon, Ultrafast, Integrable Optoelectronic Interface," C.-C. Wang, M. Currie, and T. Y. Hsiang, presented at the Ultrafast Electronics and Optoelectronics '95 Topical Meeting, Dana Point, CA, 13–17 March 1995.

"First Direct Observation of Single-Flux Quantum Pulses," D. Jacobs-Perkins, M. Currie, C.-C. Wang, R. Sobolewski, M. J. Feldman, and T. Y. Hsiang, presented at the Ultrafast Electronics and Optoelectronics '95 Topical Meeting, Dana Point, CA, 13–17 March 1995.

"Picosecond Pulse Generation by Edge Illumination of Si and InP Photoconductive Switches," M. Currie, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, presented at the Ultrafast Electronics and Optoelectronics '95 Topical Meeting, Dana Point, CA, 13–17 March 1995.

"Direct-Drive Scaling for High Gain," R. L. McCrory, Jr., presented at the AAAS Meeting (American Association for the Advancement of Science), Atlanta, GA, 19 February 1995.

"Design of a Resonant Cavity for Plasma Heating Experiments," C. M. Chen, H. Kim, M. Wittman, and S. Letzring, presented at the Tenth Target Fabrication Specialists' Meeting, Taos, NM, 6–10 February 1995.

"Determination of the Wall Thickness and Uniformity of Inertial Fusion Capsules Using the Self-Interference Fringes Produced with Narrow-Bandwidth Illumination," M. D. Wittman, H. Kim, and A. S. Chow, presented at the Tenth Target Fabrication Specialists' Meeting, Taos, NM, 6–10 February 1995.

"Fabrication of Plastic Shells by an Improved Microencapsulated Technique," H. Kim, E. L. Alfonso, and S.-H. Chen, presented at the Tenth Target Fabrication Specialists' Meeting, Taos, NM, 6–10 February 1995.

"Multiple Pulse Irradiation of Dental Hard Tissues at $CO_2$ Laser Wavelengths," D. Fried, R. E. Glena, J. D. B Featherstone, and W. Seka, presented at the SPIE Conference, Biomedical Optics Conference '95, San Jose, CA, 5–10 February 1995.

"Rational Choice of Laser Conditions for Inhibition of Caries Progression," J. D. B. Featherstone, N. A. Barrett-Vespone, D. Fried, Z. Kantorowitz, J. Lofthouse, and W. Seka, presented at the SPIE Conference, Biomedical Optics Conference '95, San Jose, CA, 5–10 February 1995,.

"Time-Dependent Reflection and Surface Temperatures during $CO_2$ Laser Irradiation of Dental Hard Tissues with 100-$\mu$s Pulses," W. Seka, D. Fried, J. D. B. Featherstone, and R. E. Glena, presented at the SPIE Conference, Biomedical Optics Conference '95, San Jose, CA, 5–10 February 1995.

"Nd:YLF Regenerative Amplifier for Pulse Shaping System of the 30-kJ (40-TW) UV OMEGA Laser System," A. V. Okishev, M. D. Skeldon, S. A. Letzring, W. Seka, and I. Will, presented at the OSA Topical Meeting: Advanced Solid-State Lasers, Memphis, TN, 30 January–2 February, 1995.

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"The Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, T. H. Hinterman, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at IAEA, Paris, France, 14–18 November 1994.

"Competition between Target Self-Emission and Soft X-Ray Backlighting," R. S. Craxton, M. Dunne, and O. Willi, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"The Effect of Plasma Rotation on the Resistive Wall Mode," R. Betti and J. P. Freidberg, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"The Effect of Thermal Conduction on the Ablative Rayleigh–Taylor Instability," V. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"The Effects of Realistic Geometry on Two-Dimensional Stimulated Brillouin Scattering," T. Kolber, C. J. McKinstrie, R. Betti, and R. E. Giacone, presented at the

36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Growth of Low-Amplitude Mass Perturbations Due to the Rayleigh–Taylor Instability," J. P. Knauer, P. W. McKenty, C. P. Verdon, S. G. Glendinning, S. V. Weber, D. M. Pennington, and R. J. Wallace, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Initial Performance Results from the Upgraded OMEGA Laser," T. R. Boehly, R. S. Craxton, P. A. Jaanimagi, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, M. D. Tracy, and C. P. Verdon, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"A Mix Model in *LILAC* for the Linear and Weakly Nonlinear Regimes of the Rayleigh–Taylor Instability," J. A. Delettrez, D. K. Bradley, and C. P. Verdon, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Monochromatic X-Ray Imaging of Laser-Fusion Targets," F. J. Marshall, A. Hauer, J. Oertel, and R. Watt, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Nonlinear Evolution of Multi-Mode Rayleigh–Taylor and Richtmyer–Meshkov Instabilities in Two and Three Dimensions," D. Shvarts, U. Alon, D. Ofer, J. Hecht, R. L. McCrory, and C. P. Verdon, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Nonlocal Electron Transport in the Presence of High-Intensity Laser Irradiation," E. M. Epperlein and R. W. Short, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 19944.

"Observations and Simulation of Stimulated Brillouin Scattering in Long-Scale-Length Laser Plasmas," A. V. Chirokikh, W. Seka, R. E. Bahr, R. S. Craxton, R. W. Short, A. Simon, and M. D. Skeldon, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Parametric Instability of Bernstein and Fluid Modes in Laser-Produced Plasma," A. Simon and R. W. Short, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Relativistic Saturation of Forward Stimulated Raman Scattering," E. J. Turano, C. J. McKinstrie, and W. L. Kruer, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Relation of Primary- to Secondary-Reaction Products to the Final Core Parameters of Pure Deuterium Targets in Laser Fusion Experiments," S. Cremer, J. P. Knauer, R. L. Kremens, M. A. Russotto, D. Shvarts, S. Skupsky, and C. P. Verdon, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Simulation of 'Saturated' Operation of the MEDUSA Neutron Detector Array," R. L. Kremens, M. A. Russotto, and S. Tudman, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Simulations of Spectral Signatures and Images of Core–Shell Mixing in Laser-Driven Implosions," R. Epstein, J. A. Delettrez, C. P. Verdon, D. Shvarts, and B. Yaakobi, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Smoothing of Speckle Irradiation Patterns by Temporal Evolution of the Target Corona," R. W. Short, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Stimulated Brillouin Scattering in Long-Scale-Length, Preformed Plasmas at 1 $\mu$m: Experiments and Simulations," W. Seka, A. V. Chirokikh, R. S. Craxton, R. E. Bahr, C. Labaune, H. A. Baldis, N. Renard, E. Schifano, A. Michard, S. Baton, B. Bauer, K. Baker, R. P. Drake, and K. Estabrook, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Stimulated Raman Scattering of Short Pulse Lasers," C. J. McKinstrie, R. Betti, R. E. Giacone, and T. Kolber, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Theory of the $\beta$-Induced Alfvén Eigenmode," R. Betti, H. L. Berk, and J. P. Freidberg, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Thermal Filamentation of Counterpropagating Laser Beams," J. S. Li, C. J. McKinstrie, C. Joshi, and K. Marsh, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Two-Dimensional Stimulated Brillouin Scattering," R. E. Giacone, C. J. McKinstrie, T. Kolber, and R. Betti, presented at the 36th Annual Meeting, APS Division of Plasma Physics, Minneapolis, MN, 7–11 November 1994.

"Electromagnetic Wave Interaction with Laser-Induced Plasmas in GaAs," L. Mu, W. R. Donaldson, J. C. Adams, and R. A. Falk, presented at SPIE's International Symposium on Photonic Sensors and Controls for Commercial Applications, Boston, MA, 31 October–4 November 1994.

"Energy Extraction from Superconducting Magnets Using Optically Activated $YBa_2Cu_3O_{7-x}$ Switches," D. Gupta, W. R. Donaldson, and A. M. Kadin, presented at SPIE's International Symposium on Photonic Sensors and Controls for Commercial Applications, Boston, MA, 31 October–4 November 1994.

"Optically Activated Switches for the Generation of Complex Electrical Waveforms with Multigigahertz Bandwidth," M. D. Skeldon, A. Okishev, S. A. Letzring, W. R. Donaldson, K. Green, and W. Seka, presented at SPIE's International Symposium on Photonic Sensors and Controls for Commercial Applications, Boston, MA, 31 October–4 November 1994.

"Ultrafast Carrier Lifetime in Low-Temperature-Grown GaAs, InP, and InGaP," Y. Kostoulas, K. B. Ucer, L. Waxer, G. W. Wicks, I. A. Walmsley, and P. M. Fauchet, presented at LEOS '94 7th Annual Meeting, Boston, MA, 31 October–3 November 1994.

"Determination of the Wall Thickness and Uniformity of Inertial Fusion Capsules Using the Self-Interference Fringes Produced with Narrow-Bandwidth Illumination," M. D. Wittman, H. Kim, and A. S. Chow, presented at the 41st National Symposium of the American Vacuum Society, Denver, CO, 24–28 October 1994.

"A Comparison of Laser-Induced Damage Morphology in Three Model Thin-Film Systems: $HfO_2$, $Y_2O_3$, and $Ta_2O_5$," S. Papernov and A. W. Schmid, presented at the XXVI Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–26 October 1994.

"Damage Fluence at 1054 nm and 351 nm of Coatings Made with Hafnium Oxide Evaporated from Metallic Hafnium," D. J. Smith, J. F. Anzellotti, A. W. Schmid, S. Papernov, Z. R. Chrzan, and S. J. Van Kerkhove, presented at the XXVI Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 24–26 October 1994.

"An Optoelectronic Testing System of Rapid, Single-Flux Quantum Circuits," M. Currie, C.-C. Wang, D. Jacobs-Perkins, R. Sobolewski, and T. Y. Hsiang, presented at the 1994 Applied Superconductivity Conference, Boston, MA, 16–21 October 1994.

"Picosecond Cryogenic Nb/Si/Nb Metal-Semiconductor-Metal (MSM) Photodiode on Superconducting Microstrip Transmission Lines," C.-C. Wang, M. Currie, D. Jacobs-Perkins, L. Shi, and T. Y. Hsiang, presented at the 1994 Applied Superconductivity Conference, Boston, MA, 16–21 October 1994.

"Thin-Film YBCO Photodetectors Based on Oxygen-Depleted Structures," W. Xiong, M. Currie, W. Kula, and R. Sobolewski, presented at the 1994 Applied Superconductivity Conference, Boston, MA, 16–21 October 1994.

"Transient Flux Dynamics in Optically Irradiated YBCO Thin Film Switches," D. Gupta, W. R. Donaldson, and A. M. Kadin, presented at the 1994 Applied Superconductivity Conference, Boston, MA, 16–21 October 1994.

"Ultrafast, Integrable, Optics-Based Interface Between Superconducting and Room-Temperature Electronics," C.-C. Wang, M. Currie, and T. Y. Hsiang, presented at the 1994 Applied Superconductivity Conference, Boston, MA, 16–21 October 1994.

"Novel Low Molar Mass Glass-Forming Liquid Crystals: Synthesis, Characterization and Morphological Stability," S. H. Chen, H. Shi, and J. Mastrangelo, presented at the 43rd Symposium on Macromolecules, Fukuoka, Japan, 12 October 1994 (invited).

"1-Hz, 1-ps, Terawatt, Chirped-Pulse Amplification Laser System with a Nd:Glass Slab Amplifier," D. D. Meyerhofer, C. Bamber, T. Blalock, S. Boege, T. Kotseroglou, and A. C. Melissinos, presented at the OSA Annual Meeting/ILS-X '94, Dallas, TX, 2–7 October 1994.

"Direct Measurements of Lower-Level Lifetime in Nd:YLF," J. D. Zuegel and W. Seka, presented at the OSA Annual Meeting/ILS-X '94, Dallas, TX, 2–7 October 1994.

"Optical Finishing with Magnetorheological Fluids," W. I. Kordonsky and S. D. Jacobs, presented at the OSA Annual Meeting/ILS-X '94, Dallas, TX, 2–7 October 1994.

"Relativistic Ponderomotive Acceleration of Electrons from a Laser Focus," C. I. Moore, J. P. Knauer, and D. D. Meyerhofer, presented at the OSA Annual Meeting/ILS-X '94, Dallas, TX, 2–7 October 1994.

"Direct-Drive Laser Fusion Experimental Program at the University of Rochester's Laboratory for Laser Energetics," R. L. McCrory, J. M. Soures, C. P. Verdon, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, H. Kim, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, F. J. Marshall, P. W. McKenty, S. F. B. Morse, A. V. Okishev, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, M. Tracy, and B. Yaakobi, presented at the 15th International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Madrid, Spain, 26 September–1 October 1994.

"Direct-Drive Capsule Physics," C. P. Verdon and R. L. McCrory, presented at ECLIM '94, Oxford, England 19–23 September 1994.

"Forward Ponderomotive Acceleration of Electrons from the Focus of a High-Intensity Laser," D. D. Meyerhofer, C. I. Moore, and J. P. Knauer, presented at the High Field Interactions and Short Wavelength Generation Topical Meeting, St. Malo, France, 21–25 August 1994.

"High-Order Harmonic Generation with an Annular Laser Beam," J. L. Peatross, J. Chaloupka, and D. D. Meyerhofer, presented at the High Field Interactions and Short Wavelength Generation Topical Meeting, St. Malo, France, 21–25 August 1994.

"High-Order Harmonics Emitted from Low-Density Gas Targets," D. D. Meyerhofer, J. Chaloupka, and J. Peatross, presented at the High Field Interactions and Short Wavelength Generation Topical Meeting, St. Malo, France, 21–25 August 1994.

"Selective Reflection Properties of Cholesteric Liquid Crystal Polymers," E. M. Korenic and S. D. Jacobs, presented at the 3rd Annual Symposium on Materials Research, Rochester, NY, 16 August 1994.

"Effect of Hydrogen Doping on Electrical Properties of Y-Ba-Cu-O Thin Films," W. Kula and R. Sobolewski, presented at M2S-HTSC IV, Grenoble, France, 5–9 July 1994.

"Hopping Transport in Y-Ba-Cu-O Films with Different Oxygen Content," D. Wu, W. Kula, and R. Sobolewski, presented at M2S-HTSC IV, Grenoble, France, 5–9 July 1994.

"Fractured Cholesteric Liquid Crystal Polymers," E. M. Korenic, presented at the UNY-VAC American Vacuum Society Annual Meeting, Rochester, NY, 9 June 1994.

"Basic Properties of Magnetorheological Fluids for Optical Finishing," W. I. Kordonsky, I. V. Prokhorov, B. E Kashevsky, S. D. Jacobs, B. E. Puchebner, Y. Hsu, D. Pietrowski, and D. Stafford, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"Chlorofluorocarbons in the Workplace: A Summary of Guidelines and Alternatives," B. E. Puchebner, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"Coolant Performance in Bound Diamond Ring Tool Grinding of K7 Optical Glass," B. E. Puchebner, A. Feltz, W. Ng, and S. D. Jacobs, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"Deterministic Microgrinding of Glass with Polycrystalline Diamond Tools," P. D. Funkenbusch, Y. Y. Zhou, C. Lohnes, D. J. Quesnel, S. D. Jacobs, B. E Puchebner, D. Golini, and A. Lindquist, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"The Effect of Additives in a Commercial Coolant on the Glass Grinding Process," B. E. Puchebner, J. Frederick, and S. Patterson, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"Evaluation of Bound Abrasive Media for Fabrication of Ring Tool Polishers," W. Ng, B. E. Puchebner, and S. D. Jacobs, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"Glass Polishing Experiments Using Magnetorheological Fluids," W. I. Kordonsky, I. V. Prokhorov, S. D. Jacobs, B. E. Puchebner, Y. Hsu, D. Pietrowski, and D. Stafford, presented at the OSA Optical Fabrication and Testing Workshop, Rochester, NY, 7–9 June 1994.

"The Design of an All-Spherical, Three-Mirror, Off-Axis Telescope Objective," C. T. Cotton, presented at the International Optical Design Conference, Rochester, NY, 6–9 June 1994.

"The Effect of Chemically Modulated Surface Charge in the Polishing of Optical Glass," M. J. Cumbo, D. Fairhurst, S. D. Jacobs, and B. E. Puchebner, presented at the OSA Science of Finishing (1994), Rochester, NY, 6–8 June 1994.

"Bubble-Competition Model for Hydrodynamically Unstable Interfaces," U. Alon, J. Hecht, D. Ofer, D. Mukamel, and D. Shvarts, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Cutoff Wave Numbers of the Incompressible Ablative Rayleigh–Taylor Instability," R. Betti, V. Goncharov, R. L. McCrory, E. Turano, and C. P. Verdon, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Flux Limiter in Picosecond Laser–Plasma Interactions," D. D. Meyerhofer, H. Chen, J. A. Delettrez, E. M. Epperlein, Y. Fisher, and B. Soom, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Generalized Fluid Models for Laser-Irradiated Plasmas," R. W. Short and E. M. Epperlein, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"An Interactive Mix Model in *LILAC* for Linear and Near-Linear Regimes of the Rayleigh–Taylor Instability," J. A. Delettrez, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Ion Thermal Conductivity and Viscosity for Plasmas with Light and Heavy Ions," E. M. Epperlein, R. W. Short, and A. Simon, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"A Modal Model for the Nonlinear Evolution of Multimode Rayleigh–Taylor Mixing Zone," D. Ofer, U. Alon, D. Shvarts, C. P. Verdon, and R. L. McCrory, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Nonlocal Electron Transport in the Presence of High-Intensity Laser Irradiation," E. M. Epperlein and R. W. Short, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Numerical Simulations of Two-Dimensional Stimulated Brillouin Scattering," T. Kolber, C. J. McKinstrie, R. Betti, and R. E. Giacone, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5-10 June 1994.

"Simulations of Soft X-Ray Generated Plasmas Created to Enhance Thermal Smoothing," R. S. Craxton, M. Dunne, O. Willi, and T. Afshar-Rad, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Smoothing of Laser Irradiation of ICF Targets Using Pre-Formed Refracting Atmospheres with Small-Scale Inhomogeneity and Time Dependence," R. Epstein, S. Skupsky, and C. P. Verdon, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Stimulated Brillouin Scattering at 1 um in Long-Scale–Length Laser Plasmas," A. Chirokikh, W. Seka, R. E. Bahr, R. S. Craxton, R. W. Short, A. Simon, and M. D. Skeldon, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Stimulated Scattering from Low-Frequency Modes in Laser-Produced Magneto-Plasmas," A. Simon and R. W. Short, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Thermal Filamentation of Counterpropagating Laser Beams," J. S. Li, C. J. McKinstrie, C. Joshi, and K. Marsh, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Three-Dimensional Simulation of the Late Nonlinear Stage of the Rayleigh–Taylor Instability," J. Hecht, D. Ofer, U. Alon, T. Tlusty, D. Shvarts, C. P. Verdon, R. L. McCrory, and S. A. Orszag, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"Two-Dimensional Stimulated Brillouin Scattering," C. J. McKinstrie, R. Betti, R. E. Giacone, T. Kolber, and J. S. Li, presented at the 24th Annual Anomalous Absorption Conference, Pacific Grove, CA, 5–10 June 1994.

"High-Efficiency Frequency Doubling of Ultra-High Intensity Nd: Glass Laser Pulses," C. Y. Chien, G. Korn, J. S. Coe, X. Liu, J. Squier, G. Mourou, R. S. Craxton, and J.-C. Kieffer, presented at CLEO '94, Anaheim, CA, 8–13 May 1994.

"A Linear Cross-Correlation Technique for Single-Shot Measurements of Weak Light Pulses," L. Zheng and D. D. Meyerhofer, presented at CLEO '94, Anaheim, CA, 8–13 May 1994.

"Optical Pulse Compression by Stimulated Scattering for Pulse-Shaping Applications in the OMEGA Upgrade Laser," A. V. Okishev, M. D. Skeldon, and W. Seka, presented at CLEO '94, Anaheim, CA, 8–13 May 1994.

"Optimization of Optical Beam Steering in Nonlinear Kerr Media Via Spatial Phase Modulation," X. D. Cao, G. P. Agrawal, and D. D. Meyerhofer, presented at CLEO '94, Anaheim, CA, 8–13 May 1994.

"Terrahertz Spectral Analysis of Straight and Bent Coplanar Transmission Lines," S. Alexandrou, C.-C. Wang, M. Currie, R. Sobolewski, and T. Y. Hsiang, presented at CLEO '94, Anaheim, CA, 8–13 May 1994.

"The Upgrade to the OMEGA Laser System: A Status Report," J. H. Kelly, T. R. Boehly, D. L. Brown, and M. D. Tracy, presented at CLEO '94, Anaheim, CA, 8–13 May 1994 (invited).

"High-Harmonic Generation with an Annular Laser Beam," D. D. Meyerhofer, J. Chaloupka, and J. Peatross, presented at IQEC '94, Anaheim, CA, 8–13 May 1994.

"Observations of Ponderomotively Accelerated Electrons from the Focus of a Very-High-Intensity Laser," C. I. Moore, J. P. Knauer, and D. D. Meyerhofer, presented at IQEC '94, Anaheim, CA, 8–13 May 1994.

"Development and Characterization of a Pair of 30–40 ps X-Ray Framing Cameras," D. K. Bradley, P. M. Bell, O. L. Landen, J. D. Kilkenny, and J. Oertel, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Extending X-Ray Streak Camera Operation to Vacuum Ultraviolet Wavelengths," P. A. Jaanimagi, R. C. Elton, B. L. Welch, Y. Leng, and H. R. Griem, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Laser and Plasma Diagnostics for the OMEGA Laser System," S. A. Letzring, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"New Diagnostic Features in the Laser Implosion of Argon-Filled Targets," B. Yaakobi, R. Epstein, F. J. Marshall, D. K. Bradley, P. A. Jaanimagi, and Q. Su, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Performance Simulations of the Medusa Neutron Detector," R. L. Kremens, M. A. Russotto, and S. Tudman, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Quantitative Measurements with X-Ray Microscopes in Laser-Fusion Experiments," F. J. Marshall and Q. Su, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Target Imaging and Backlighting Diagnosis," B. Yaakobi, D. Shvarts, F. J. Marshall, R. Epstein, and Q. Su, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"The Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, T. H. Hinterman, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Using Cosmic Rays to Monitor Large Scintillator Arrays," J. P. Knauer, R. L. Kremens, M. A. Russotto, and S. Tudman, presented at the APS 10th Annual High-Temperature Plasma Diagnostics, Rochester, NY, 8–12 May 1994.

"Design and Manufacture of Laser Quality Liquid Crystal Optics," S. D. Jacobs, A. L. Rigatti, D. J. Smith, L. D. Lund, H. M. D'Alessandro, K. L. Marshall, and A. W. Schmid, presented at the Materials Research Society Spring '94 Meeting, San Francisco, CA, 4–8 April 1994 (invited).

"Novel Glassy Nematic and Chiral Nematic Oligomers Derived from 1,3,5-Cyclohexanetricarboxylic and (1R,3S)-(+)-Camphoric Acids," H. Shi and S.-H. Chen, presented at the Materials Research Society Spring '94 Meeting, San Francisco, CA, 4–8 April 1994.

"Selective Reflection Properties of Embedded Pre-Aligned Cholesteric Domains as Functions of Incidence Angle," E. M. Korenic and S. D. Jacobs, presented at the Materials Research Society Spring '94 Meeting, San Francisco, CA, 4–8 April 1994.

"Thermotropic Side-Chain Polymers Carrying High Optical Birefringence Nematogenic Groups," J. C. Mastrangelo and S. H. Chen, presented at the Materials Research Society Spring '94 Meeting, San Francisco, CA, 4–8 April 1994.

"High-Temperature, Superconducting Switches for SMES Applications," W. R. Donaldson, D. Gupta, and A. M. Kadin, presented at the Advisory Group on Electron Devices 1994 High-Voltage Workshop, Smyrna, GA, 1–3 March 1994.

"Femtosecond Carrier Dynamics in Low-Temperature-Grown III–V Semiconductors," Y. Kostoulas, P. M. Fauchet, T. Gong, B. C. Tousley, G. W. Wicks, and P. Cooke, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"Femtosecond Optical Response of Y-Ba-Cu-O Films and Their Applications in Optoelectronics," R. Sobolewski, L. Shi, W. Xiong, X. Weng, Y. Kostoulas, and P. M. Fauchet, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"Global View of New Optical Manufacturing Processes," S. D. Jacobs, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994 (invited).

"Laser Writing: A New Technique for Fabrication of Electronic and Optoelectronic Y-Ba-Cu-O Devices and Circuits," W. Xiong, W. Kula, R. Sobolewski, and J. R. Gavaler, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"Loss and Dispersion at Subterahertz Frequencies in Coplanar Waveguides with Varying Ground-Plane Widths," S. Alexandrou, C.-C. Wang, M. Currie, R. Sobolewski, and T. Y. Hsiang, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"Microwave Properties of Monolithic Y-Ba-Cu-O Transmission Line Devices Fabricated by the Laser-Writing Patterning Technique," D. P. Maung, W. N. Butler, W. Xiong, W. Kula, and R. Sobolewski, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"Picosecond Characteristics of Silicon-on-Insulator, Metal–Semiconductor–Metal Photodiodes," C.-C. Wang, S. Alexandrou, D. Jacobs-Perkins, and T. Y. Hsiang, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"The Starting Mechanism in Coupled-Cavity, Mode-Locked Laser Systems," A. I. Lobad, P. J. Rodney, B. C. Tousley, S. M. Mehta, and P. M. Fauchet, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"The Thermal Effects on $CO_2$ Laser-Irradiated Dental enamel at 9.3, 9.6, 10.3, and 10.6 $\mu$m," D. Fried, S. F. Borzillary, S. M. McCormack, R. E. Glena, J. D. B. Featherstone, and W. Seka, presented at OE/LASE '94, Los Angeles, CA, 22–28 January 1994.

"Electric-Field Effect in Partially Oxygen-Depleted, Superconducting Y-Ba-Cu-O Thin Films," W. Kula and R. Sobolewski, presented at the 1994 Gordon Research Conference on Superconductivity, Oxnard, CA, 2–7 January 1994.

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"Dependence of Femtosecond Reflectivity on the Oxygen Content in Y-Ba-Cu-O Thin Films," L. Shi, T. Gong, W. Xiong, X. Weng, Y. Kostoulas, R. Sobolewski, and P. M. Fauchet, presented at the Materials Research Society 1993 Fall Meeting, Boston, MA, 29 November–3 December 1993.

"Hydrogen Doping of Y-Ba-Cu-O Thin Films with Various Oxygen Content," W. Kula and R. Sobolewski, presented at the Materials Research Society 1993 Fall Meeting, Boston, MA, 29 November–3 December 1993.

"Microwave Response of Mixed-Phase $Bi_2Sr_2Ca_2Cu_3O_x/Bi_2Sr_2Ca_1Cu_2O_y$ Thin Films," P. Gierlowski, W. Kula, S. J. Lewandowski, and R. Sobolewski, presented at the Materials Research Society 1993 Fall Meeting, Boston, MA, 29 November–3 December 1993.

"Compensation of the Lens Effects of Thick Cryogenic Layers Using an Interferometric Imaging System," M. D. Wittman, presented at the 40th National AVS Symposium and Topical Conference, Orlando, FL, 15–19 November 1993.

"Confocal Microscopy of Inertial-Fusion Fuel Capsules," H. Kim, P. W. McKenty, and P. Cheng, presented at the 40th National AVS Symposium and Topical Conferences, Orlando, FL, 15–19 November 1993.

"A Low-Mass Mounting Method for Cryogenic Inertial-Fusion Targets," R. Q. Gram, D. S. Brennan, S. G. Noyes, R. A. Mangano, and R. L. Fagaly, presented at the 40th National AVS Symposium and Topical Conference, Orlando, FL, 15–19 November 1993.

"Target Requirements for the OMEGA Upgrade," C. P. Verdon, presented at the 40th National AVS Symposium and Topical Conference, Orlando, FL, 15–19 November 1993.

"Characterization of Surface Particulate Contamination on Liquid-Crystal Optics for Laser Fusion," L. D. Lund, A. Rigatti, P. Glenn, and J. Glenn, presented at the ASPE 8th Annual Meeting, Seattle, WA, 7–12 November 1993.

"Angular Dependence of SBS in Homogeneous Plasma," R. E. Giacone, C. J. McKinstrie, and R. Betti, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Dynamic Stability of Imploding Shells," C. P. Verdon, R. Betti, and R. L. McCrory, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"The Effect of Jets of Accelerated Ions on Scattered Laser Light Near $\omega_0$," A. Simon, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Eigenvalue Solution of the Fokker–Planck Equation for Ion-Acoustic and Entropy Waves in Multi-Species Plasmas," M. D. Tracy and E. M. Epperlein, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"High-Performance Direct-Drive Capsule Designs for the National Ignition Facility," C. P. Verdon, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993 (invited).

"Implicit-Conservative Fokker–Planck Simulations of Heat Flow in Laser Fusion," E. M. Epperlein, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Ion Emission from High-Contrast, Picosecond, Laser–Plasma Interactions," Y. Fisher, B. Soom, and D. D. Meyerhofer, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Linear Growth Rates of the Ablative Rayleigh–Taylor Instability," R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Measurements of the Effects of Pulse Shaping on Rayleigh–Taylor Growth in Burnthrough Targets," D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, S. Skupsky, and C. P. Verdon, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Numerical Modeling of a Thermal Smoothing Experiment," R. S. Craxton, T. Afshar-Rad, M. Dunne, and O. Willi, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"OMEGA Long-Scale-Length Laser–Plasma Experiments," W. Seka, R. E. Bahr, R. S. Craxton, A. Chirokikh, R. W. Short, A. Simon, H. Baldis, and R. P. Drake, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"PIC Code Simulations of the Interaction of 100-fs Gaussian Laser Pulses with Targets of Varying Scale Lengths," J. A. Delettrez, G. Bonnaud, P. Audebert, J. P. Geindre, and J. C. Gauthier, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Primary and Secondary Reaction Products are Studied to Determine Target Performance in Initially Pure Deuterium Targets in Laser–Fusion Experiments," M. A. Russotto, G. Cripps, C. P. Verdon, S. Skupsky, and R. L. Kremens, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Progress on the Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Relativistic Saturation of Forward SRS," M. Yu, C. J. McKinstrie, and W. L. Kruer, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Sideward SBS of Counterpropagating Light Waves," C. J. McKinstrie, J. S. Li, and C. Joshi, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Simulation of Laser–Fusion Activation Diagnostics," G. Cripps, M. A. Russotto, C. P. Verdon, S. Skupsky, and R. L. Kremens, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Smoothing of Laser Irradiation of Spherical ICF Targets Using a Pre-Formed Refracting Atmosphere Containing Small Inhomogeneities," R. Epstein, S. Skupsky, and C. P. Verdon, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Stability of the $m$ = 1 Internal Kink in Ignited Plasmas," R. Betti and J. P. Freidberg, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Stabilization of the Rayleigh–Taylor Unstable Ablation Interface with Trace Amounts of Chlorine," J. P. Knauer, C. P. Verdon, T. J. Kessler, S. Skupsky, R. L. McCrory, J. M. Soures, S. G. Glendinning, S. V. Weber, R. J. Wallace, S. N. Dixit, M. A. Henesian, J. D. Kilkenny, and H. T. Powell, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Stimulated Brillouin Scattering at 1.053 $\mu$m in OMEGA Long-Scale-Length Interaction Experiments," A. V. Chirokikh, W. Seka, R. S. Craxton, R. E. Bahr, A. Simon, R. W. Short, E. M. Epperlein, H. Baldis, and R. P. Drake, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Stimulated Brillouin Scattering Driven by Smoothed Laser Beams," R. W. Short, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Thermal Filamentation of Counterpropagating Light Waves," J. S. Li, C. J. McKinstrie, and C. Joshi, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Thermal Heat Front Penetration in Picosecond Laser–Plasma Interactions," D. D. Meyerhofer, H. Chen, J. A. Delettrez, E. M. Epperlein, Y. Fisher, and B. Soom, presented at the 35th Annual Meeting Division of Plasma Physics of the APS, St. Louis, MO, 1–5 November 1993.

"Atomic Force Microscopy Observations of Water-Induced Morphological Changes in $Y_2O_3$ Monolayer Coatings," S. Papernov and A. W. Schmid, presented at the XXV Boulder Damage Symposium on Optical Materials for High Power Lasers, Boulder, CO, 27–29 October 1993.

"Atomic Force Microscopy Studies of Laser-Triggered Morphology Changes in $Y_2O_3$ Monolayer Coatings," S. Papernov and A. W. Schmid, presented at the XXV Boulder Damage Symposium on Optical Materials for High Power Lasers, Boulder, CO, 27–29 October 1993.

"Cooling Flow Management System for the OMEGA Laser System," T. E. Fortner and M. J. Shoup III, presented at the Sensors Expo, Philadelphia, PA, 26–28 October 1993.

"Design of a 60-kJ, 60-Beam Upgrade to the OMEGA Laser at the Laboratory for Laser Energetics, University of Rochester," S. A. Letzring, presented at the 15th Symposium on Fusion Engineering, Hyannis, MA, 11–15 October 1993.

"Design and Performance of a Flexible, kJ-Class Frequency-Converted, Single-Beam Nd:Glass Laser," J. H. Kelly, K. A. Thorp, R. L. Keck, M. D. Tracy, C. Cotton, R. G. Roides, C. K. Merle, M. M. Tedrow, B. Staat, and I. Will, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"The Fabrication and Testing of a High-Damage-Threshold, UV Transmissive, Lens Array Telescope," C. Kellogg, K. Kubath, A. Maltsev, and T. J. Kessler, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Highly Reliable, Stable, and Synchronizable Long-Pulse Mono-Mode Oscillator for Laser-Fusion Drivers," W. Seka, I. Will, J. Chow, D. L. Brown, M. D. Skeldon, C. K. Merle, R. G. Roides, and W. Ragg, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Holographic Diffractive Optics for Use in High-Peak-Power Laser Systems," J. J. Armstrong and T. J. Kessler, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Light Scattering in Dental Hard Tissues," D. Fried, J. D. B. Featherstone, W. Seka, R. Glena, and B. Bordyn, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Observation of Intensity-Dependent Phase of Atomic High-Harmonic Emission in the Far-Field Angular Distribution," J. Peatross and D. D. Meyerhofer, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Optical-Phase-Plate Design and Modeling for Laser Fusion," Y. Lin, T. J. Kessler, and G. Lawrence, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Regenerative Amplifier with Negative Feedback for Enhanced Amplitude Stability and External Synchronizability," D. L. Brown, I. Will, R. G. Roides, C. K. Merle, M. D. Skeldon, and W. Seka, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Spectral Masks for Optical Pulse Shaping of Lasers in Fusion," R. Stewart, S. Bui, and T. J. Kessler, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Transverse Modulational Instabilities in the Presence of Stimulated Rotational Raman Scattering with a High-Power Laser," M. D. Skeldon, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Versatile Front-End Laser System for Laser-Fusion Drivers," M. D. Tracy, I. Will, C. K. Merle, R. G. Roides, K. Thorp, M. D. Skeldon, J. H. Kelly, and W. Seka, presented at the 1993 OSA Annual Meeting, Toronto, Canada, 3–8 October 1993.

"Direct Measurements of Gain-Saturation Phenomena in Nd:YLF," J. D. Zuegel and W. Seka, presented at ILS IX (1993), Toronto, Canada, 3–8 October 1993.

"Magnetorheological Finishing of Optics," W. I. Kordonsky, I. V. Prokhorov, G. Gorodkin, S. D. Jacobs, B. Puchebner, and D. Pietrowski, presented at the 2nd Annual Symposium of the University of Rochester Chapter of the Materials Research Society (SOMR 93), Rochester, New York, 23 August 1993.

"Determination of Carrier–Carrier Scattering by a New Time-Resolved Technique," Y. Kostoulas, T. Gong, and P. M. Fauchet, presented at the Eighth International Conference on Hot Carriers in Semiconductors (HCIS-8), Oxford, UK, 16–20 August 1993.

"Hot Carrier Dynamics Near the Fermi Edge of *n*-Doped GaAs," T. Gong, P. M. Fauchet, J. F. Young, G. W. Wicks, and P. J. Kelly, presented at the Eighth International Conference on Hot Carriers in Semiconductors (HCIS-8), Oxford, UK, 16–20 August 1993.

"Electric-Field Effect in Partially Deoxygenated YBCO Thin Films," W. Kula and R. Sobolewski, presented at the XX International Conference on Low Temperature Physics, Eugene, OR 4–11 August 1993.

"Electrical and Structural Properties of the YBCO Superconducting–Semiconducting Interface," R. Sobolewski, W. Xiong, W. Kula, and B. McIntyre, presented at the XX International Conference on Low Temperature Physics, Eugene, OR 4–11 August 1993.

"Electric-Field-Effect Devices Based on Partially Oxygen-Depleted, Superconducting Y-Ba-Cu-O Thin Films," W. Kula and R. Sobolewski, presented at the International Cryogenic Materials Conference, Albuquerque, NM, 12–16 July 1993.

"Fabrication of High-$T_c$ Superconducting Electronic Devices Using the Laser-Writing Patterning Technique," W. Xiong, W. Kula, and R. Sobolewski, presented at the International Cryogenic Materials Conference, Albuquerque, NM, 12–16 July 1993.

"A Laser-Triggered, Inductive Opening Switch Using High-Temperature Superconducting Thin Films," D. Gupta, W. R. Donaldson, and A. M. Kadin, presented at the International Cryogenic Engineering Conference, Albuquerque, NM 12–16 July 1993.

"An Electro-Optic Sampling System for Ultrafast Testing of Superconducting Circuits," T. Y. Hsiang, C.-C. Wang, A. Denysenko, S. Alexandrou, and R. Sobolewski, presented at ISEC '93, Boulder, CO, 12–14 July 1993.

"Monolithic Y-Ba-Cu-O Structures Fabricated Using the Laser-Writing Patterning Technique," R. Sobolewski, W. Xiong, W. Kula, W. N. Maung, and D. P. Butler, presented at ISEC '93, Boulder, CO, 12–14 July 1993.

"Compensation of the Lens Effects of Thick Cryogenic Layers Using an Interferometric Imaging System," M. D. Wittman, presented at the Ninth Target Fabrication Specialists' Meeting, Monterey, CA, 5–9 July 1993.

"Fabrication of Ablator-Layer-Overcoated Foam Shells at Osaka University," H. Kim, presented at the Ninth Target Fabrication Specialists' Meeting, Monterey, CA, 5–9 July 1993.

"Fabrication of Thin Planar Discs for Use in Long-Scale-Length Plasma Experiments," S. G. Noyes, presented at the Ninth Target Fabrication Specialists' Meeting, Monterey, CA, 5–9 July 1993.

"A Low-Mass Mounting Method for Cryogenic Targets," R. Q. Gram, D. S. Brennan, S. G. Noyes, R. A. Mangano, and R. L. Fagaly, presented at the Ninth Target Fabrication Specialists' Meeting, Monterey, CA, 5–9 July 1993.

"Modification of Carbon-Fiber Geometry Using an Oxygen–Plasma Etcher," D. S. Brennan, presented at the Ninth Target Fabrication Specialists' Meeting, Monterey, CA, 5–9 July 1993.

"Comparison of Quasiclassical and Exact Dipole Moments for Bound-Free and Bound-Bound Transitions in Hydrogen," M. Adams, M. V. Fedorov, V. Krainov, and D. D. Meyerhofer, presented at the 6th International Conference on Multiphoton Processes (ICOMP VI), Quebec City, Canada, 25–30 June 1993.

"High-Harmonic Generation and the Two-Level Atom," B. Buerke and D. D. Meyerhofer, presented at the 6th International Conference on Multiphoton Processes (ICOMP VI), Quebec City, Canada, 25–30 June 1993.

"High-Order Harmonics Emitted from Low-Density Gas Targets," D. D. Meyerhofer, presented at the 6th International Conference on Multiphoton Processes (ICOMP VI), Quebec City, Canada, 25–30 June 1993.

"Measurement of the Angular Distribution of High-Order Harmonics Emitted from Ionizing Low-Density Gas," J. Peatross and D. D. Meyerhofer, presented at the 6th International conference on Multiphoton Processes (ICOMP VI) Quebec City, Canada, 25–30 June 1993.

"Minimizing the Phase Mismatch for Laser Harmonic Generation in an Ionization Gas," D. D. Meyerhofer, J. Peatross, and X.-D. Cao, presented at the 6th International Conference on Muliphoton Processes (ICOMP VI) Quebec City, Canada, 25–30 June 1993.

"The Angular Dependence of Stimulated Brillouin Scattering in Homogeneous Plasma," R. E. Giacone, C. J. McKinstrie, R. Betti, and H. Chen, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Eigenvalue Solution for the Ion-Collisional Effects on Ion-Acoustic and Entropy Waves," M. D. Tracy, E. A. Williams, K. G. Estabrook, and S. M. Cameron, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Hydrodynamic Stability of Unsteady Ablation Fronts," R. Betti, R. L. McCrory, and C. P. Verdon, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Implicit-Conservative Fokker–Planck Simulations of Heat Flow in Laser Fusion," E. M. Epperlein, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Linear Growth Rate of the Ablative Rayleigh–Taylor Instability," R. Betti, R. L McCrory, and C. P. Verdon, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Measurements of Backscattered Light Near 351 nm in Long-Scale-Length Plasma Experiments on OMEGA," A. C. Gaeris, R. E. Bahr, R. S. Craxton, W. Seka, and D. D. Meyerhofer, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Measurements of the Effects of Pulse Shaping on Rayleigh–Taylor Growth in Burnthrough Targets," D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, S. Skupsky, and

C. P. Verdon, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"OMEGA Long-Scale-Length Laser–Plasma Interaction Experiments," W. Seka, R. S. Craxton, R. E. Bahr, A. V. Chirokikh, A. Simon, R. W. Short, E. M. Epperlein, H. Baldis, and R. P. Drake, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Plasma Density Profiles from Grid Image Refractometry," R. S. Craxton, R. Hoefen, F. S. Turner, C. Darrow, E. F. Gable, and Gar. E. Busch, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Scattering of Laser Light Near $\omega_0$ Caused by Jets of Accelerated Ions," A. Simon, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"A Simple Calculation of the Effects of Beam-Smoothing Techniques on Stimulated Brillouin Scattering," R. W. Short, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Simple Models of Source Terms Used in the Analysis of Parametric Instabilities," P. J. McKinstrie, J. S. Li, R. Betti, and E. A. Williams, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Simulations of Spectral Signatures and Images of Core–Shell Mixing in Laser-Driven Implosions," R. Epstein, C. P. Verdon, D. K. Bradley, J. Delettrez, F. J. Marshall, and B. Yaakobi, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Stimulated Brillouin Scattering at 1.053 $\mu$m in OMEGA Long-Scale-Length Interaction Experiments," A. V. Chirokikh, W. Seka, R. S. Craxton, R. E. Bahr, A. Simon, R. W. Short, E. M. Epperlein, H. Baldis, and R. P. Drake, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Suprathermal Electrons and Ions Produced in *P*-Polarized, Picosecond, Laser–Plasma Interactions," Y. Fisher, H. Chen, B. Soom, and D. D. Meyerhofer, presented at the 23rd Annual Anomalous Absorption Conference, Wintergreen, VA, 21–25 June 1993.

"Fast Inductively Coupled Superconducting Opening Switch Triggered by Short Laser Pulses," D. Gupta, W. R. Donaldson, and A. M. Kadin, presented at the 9th IEEE International Pulsed Power Conference, Albuquerque, New Mexico 21–23 June 1993.

"Simulating Photoconductive Switches in a Microwave Transmission Line," L. Mu and W. R. Donaldson, presented at the 9th IEEE International Pulsed Power Conference, Albuquerque, New Mexico, 21–23 June 1993.

"Some Fundamental Issues Governing Thermotropic Chiral Nematic Copolymers," S. H. Chen and S. Krishnamurthy, presented at the 42nd Society for Polymer Science, Kyoto, Japan, 31 May–2 June 1993.

"Fokker–Planck Modeling of Electron Transport in Laser Fusion," E. M. Epperlein, presented at the Workshop on Collisions: Physical Phenomena and Mathematical Models, Aussois, France, 27–28 May 1993 (invited).

"Technical Advances in Process Science Research at the Center for Optics Manufacturing," S. D. Jacobs, A. Lindquist, M. J. Cumbo, B. Puchebner, A. Feltz, W. Czajkokwski, D. Golini, J. Greivenkamp, D. T. Moore, and H. M. Pollicove, presented at the 7th International Precision Engineering Seminar, Kobe, Japan, 17–21 May 1993.

"Direct-Drive Target Experiments at the Laboratory for Laser Energetics," R. L. McCrory, presented at the 22nd ECLIM, Paris, France 10–14 May 1993.

"Long-Scale-Length Laser–Plasma Interaction Experiments on OMEGA," W. Seka, R. S. Craxton, R. E. Bahr, A. V. Chirokikh, D. D. Meyerhofer, A. Simon, and R. W. Short, presented at the 22nd ECLIM, Paris, France 10–14 May 1993.

"7.5-ps Crystalline Silicon Metal–Semiconductor–Metal Schottky Photodiodes," S. Alexandrou, C.-C. Wang, T. Y. Hsiang, M. Y. Liu, and S. Y. Chou, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Characterization of Microchannel-Plate Detectors for High-Speed Gated X-Ray Imaging by Elector-Optic Sampling," A. Denysenko, R. Sobolewski, S. Alexandrou, C.-C. Wang, T. Y. Hsiang, W. R. Donaldson, D. K. Bradley, and P. M. Bell, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Energy and Active-Wavefront Characterization of a Single Beamline of the OMEGA Upgrade," J. H. Kelly, M. M. Tedrow, K. A. Thorp, R. L. Keck, C. T. Cotton, and M. J. Shoup, III, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Femtosecond Optical Measurements of the Position of the Fermi Level in Y-Ba-Cu-O Films with Different Oxygen Content," R. Sobolewski, T. Gong, Y. Kostoulas, W. Xiong, W. Kula, and P. M. Fauchet, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Generation and Characterization of Fast Rise-Time Pulses on the OMEGA Laser System," M. D. Skeldon, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Large-Aperture Ring Amplifier with Gains in Excess of 40,000 and Several-Joule Output Capability," D. L. Brown, I. Will, W. Seka, and Tracy, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Strategies for Ultra-High Laser Uniformity Using Zero-Correlation Phase Masks," S. Skupsky, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Tuning a Cr:LiSAF Laser with a High-Efficiency Transmission Grating," J. D. Zuegel, W. Seka, and G. Gretton, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Uniformity Issues in the Manufacture of Large-Aperture Liquid-Crystal Wave Plates," A. L. Rigatti, D. M. Dudek, R. G. Carnes, L. D. Lund, K. L. Marshall, S. Papernov, A. W. Schmid, D. J. Smith, and S. D. Jacobs, presented at CLEO '93, Baltimore, MD, 2–7 May 1993.

"Electron-Hole and Electron–Plasmon Interactions Near the Fermi Edge," T. Gong, P. M. Fauchet, J. F. Young, and P. J. Kelly, presented at QELS '93, Baltimore, MD, 2–7 May 1993.

"Deterministic Microgrinding of Spherical Surfaces on Optical Glasses," D. Golini, M. Atwood, M. Bechtold, W. Czjakowski, A. Feltz, S. D. Jacobs, and A. Lindquist, presented at the ASPE Spring Topical Meeting/Principles of Cutting Mechanics: Applications to Ultra-Precision Machining and Grinding, Tucson, AZ, 13–15 April 1993.

"Measurement of the Angular Distribution of High-Order Harmonics Emitted from Rare Gases," J. Peatross and D. D. Meyerhofer, presented at Short Wavelength V: Physics with Intense Laser Pulses, San Diego, CA 29–31 March, 1993.

"Novel Gas Nozzle Design for Use in Laser Harmonic Generation," J. Peatross and D. D. Meyerhofer, presented at Short Wavelength V: Physics with Intense Laser Pulses, San Diego, CA, 29–31 March 1993.

"Strong $K_{\alpha}$ Emission in Picosecond Laser–Plasma Interactions," B. Soom, H. Chen, Y. Fisher, and D. D. Meyerhofer, presented at Short Wavelength V: Physics with Intense Laser Pulses, San Diego, CA, 29–31 March 1993.

"Superheating of Bi(0001)," E. A. Murphy, H. E. Elsayed-Ali, and J. W. Herman, presented at the American Physical Society (APS), Seattle, WA 22–26 March 1993.

"Subpicosecond Electrical Pulse Generation in GaAs by Nonuniform Illumination of Series and Parallel Transmission-Line Gaps," S. Alexandrou, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, presented at Ultrafast Electronics and Optoelectronics, San Francisco, CA, 25–27 January 1993.

"Ultrafast Optical and Optoelectronic Response of Current Carrying Y-Ba-Cu-O Thin-Films," T. Gong, L. X. Zheng, Y. Kostoulas, W. Xiong, W. Kula, K. B. Ucer, R. Sobolewski, and P. M. Fauchet, presented at Ultrafast Electronics and Optoelectronics, San Francisco, CA, 25–27 January 1993.

"Carrier–Carrier Interactions in GaAs Investigated by Femtosecond Spectroscopy," T. Gong and P. M. Fauchet, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Efficient $K_\alpha$ Emission in High-Contrast, Short-Pulse, Laser–Plasma Interactions," B. Soom, X. D. Cao, H. Chen, S. Uchida, B. Yaakobi, and D. D. Meyerhofer, presented at OE/LASE '93, Los Angeles, CA 16–23 January 1993.

"Fast Optically Triggered Superconducting Opening Switches," D. Gupta, W. R. Donaldson, and A. M. Kadin, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Femtosecond Optical Nonlinearities in $YBa_2Cu_3O_{7-x}$," T Gong, Y. Kostoulas, L. X. Zheng, W. Xiong, W. Kula, R. Sobolewski, and P. M. Fauchet, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Large-Aperture High-Efficiency Holographic Gratings for High-Power Laser Systems," J. J. Armstrong and T. J. Kessler, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Laser-Beam Pulse Shaping Using Dispersive Spectral Filtering," Y.-H. Chuang, T. J. Kessler, and S. Skupsky, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Laser System Power Balance Effects from Stimulated Rotational Raman Scattering in Air," Y. Lin, T. J. Kessler, J. J. Armstrong, and G. N. Lawrence, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Phase Conversion of Lasers with Low-Loss Distributed Phase Plates," T. J. Kessler, Y. Lin, J. J. Armstrong, and B. Velazquez, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Strategies for Ultra-High Laser Uniformity Using Zero-Correlation Phase Masks," S. Skupsky and T. J. Kessler, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Temporal Pulse-Width Control of a Regenerative Amplifier with Intracavity Etalons," M. D. Skeldon and S. T. Bui, presented at OE/LASE '93, Los Angeles, CA 16–23 January 1993.

"Transmission-Line Modeling of Photoconductive Switches," W. R. Donaldson and L. Mu, presented at OE/LASE '93, Los Angeles, CA, 16–23 January 1993.

"Angular Distributions of High-Order Harmonics," D. D. Meyerhofer and J. Peatross, SILAP III, Belgium, 8–14 January 1993.

"Sequential Ionization of $^3$He with 1.5-ps, 1-$\mu$m Laser Pulse," D. D. Meyerhofer, B. Buerke, and J. Peatross, presented at SILAP III, Belgium, 8–14 January 1993.

"Transport Properties of Y-Ba-Cu-O and Bi-Sr-Ca-Cu-O Thin Films in the Thermodynamic Fluctuation Range," W. Lang, G. Heine, C. Sekirnjak, P. Schwab, X. Z. Wang, D. Bauerle, W. Kula, and R. Sobolewski, presented at the 2nd Israeli International Conference on High $T_c$ Superconductivity, Eliat, Israel, 4–7 January 1993.

"Ultrafast High $T_c$ Optoelectronics," R. Sobolewski, presented at the 2nd Israeli International Conference on High $T_c$ Superconductivity, Eliat, Israel, 4–7 January 1993 (invited).

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"Design and Performance of a Modern, 15-cm-Aperture Brewster-Disk Amplifier," J. H. Kelly, M. J. Shoup, III, M. M. Tedrow, and K. A. Thorp, presented at Lasers '92, The 15th International Conference on Lasers and Applications, Houston, TX, 7–11 December 1992.

"Ultrafast Laser Superheating of Metal Surfaces," H. E. Elsayed-Ali, J. W. Herman, and E. A. Murphy, presented at the 1992 Materials Research Society Fall Meeting, Boston, MA, 30 November–4 December 1992.

"Assessment of Frictional Forces in Optical Polishing Using Atomic Force Microscopy," M. J Cumbo, A. Lindquist, and S. D. Jacobs, presented at the Optical Fabrication and Testing Workshop, Boston, MA, 17–19 November 1992.

"Bound Abrasive Polisher Concepts for the Center for Optics Manufacturing CNC Machining Centers," A. Lindquist, B. Puchebner, M. M. Cumbo, T. Rich, and S. D. Jacobs, presented at the Optical Fabrication and Testing Workshop Topical Meeting, Boston, MA, 17–19 November 1992.

"The Effects of Material Properties and Process Parameters on Surface Quality During Microgrinding of Glass," J. Lambropoulos, M. J. Cumbo, and S. D. Jacobs, presented at the Optical Fabrication and Testing Workshop, Boston, MA, 17–19 November 1992.

"Non-Destructive Estimation of Subsurface Glass Damage Using Fluorescent Confocal Microscopy," W. E. Smith, T.-H. Bui, A. Lindquist, and S. D. Jacobs, presented at the Optical Fabrication and Testing Workshop, Boston, MA, 17–19 November 1992.

"Optical Fabrication Laboratory: Introductory Training for Optical Engineering Students," S. D. Jacobs, K. Kubath, and A. Maltsev, presented at the Optical Fabrication and Testing Workshop, Boston, MA, 17–19 November 1992.

"The Angular Dependence of SBS in Homogeneous Plasma," C. J. McKinstrie and R. E. Giacone, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Applications of High-Speed-Gated X-Ray Imaging for Laser-Driven Implosions," D. K. Bradley, presented at the 34th Annual Meeting Division of Plasma Physics of the APS, Seattle, WA, 16–20 November 1992 (invited).

"Characteristics of the Enhanced Field in High-Intensity Contrast Picosecond Laser-Produced Plasmas," S. Uchida, H. Chen, Y.-H. Chuang, J. A. Delettrez, and D. D. Meyerhofer, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Damping of Ion-Acoustic Waves in the Presence of Electron–Ion Collisions," E. M. Epperlein, R. W. Short, and A. Simon, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Diagnosis of CD Shell Implosion by Continuum Absorption Spectroscopy," F. J. Marshall, J. A. Delettrez, R. Epstein, C. P. Verdon, and B. Yaakobi, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Dynamic Stabilization of the Ablative Rayleigh–Taylor Instability," R. Betti, A. Simon, and C. P. Verdon, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"The Effect of Weak Electron-Ion Collisions on Ion-Sound Wave Decay," A. Simon, E. M. Epperlein, and R. W. Short, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Hydrodynamic Simulations of Long-Scale-Length Plasma Experiments on OMEGA," R. S. Craxton, W. Seka, R. E. Bahr, and D. L. Montgomery, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"The Impulse Response of a Modulationally Unstable Wave," M. Yu and C. J. McKinstrie, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"$K_{\alpha}$ Emission from High-Contrast, Picosecond Laser–Plasma Interactions," B. Soom, H. Chen, B. Yaakobi, and D. D. Meyerhofer, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Monte Carlo Studies of Charged Particle and Neutron Spectra in Laser Fusion Experiments for the Determination of High Fuel Areal Densities," M. A. Russotto and R.

L. Kremens, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Neutron Streak Camera Diagnostic for ICF Implosions," P. A. Jaanimagi, D. K. Bradley, R. L. Kremens, M. A. Russotto, and C. P. Verdon, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Nonlinear Oscillations and Chaos in Backward Four-Wave Mixing," J. S. Li and C. J. McKinstrie, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Nuclear Diagnostics for the OMEGA Upgrade," R. L. Kremens and M. A. Russotto, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Numerical Investigation of Self-Focusing of Broad Bandwidth Laser Light," P. W. McKenty, J. H. Kelly, and S. Skupsky, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Parametric Instabilities Driven by Inverse Bremsstrahlung in Laser-Produced Plasmas," R. W. Short and E. M. Epperlein, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Prepulse-Free, Short-Pulse, High-Intensity, Laser–Plasma Interactions," D. D. Meyerhofer, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16-20 November 1992 (invited).

"Progress on the Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Simulations of Spectral Signatures of Core–Shell Mixing in Laser-Driven Implosions," R. Epstein, C. P. Verdon, J. Delettrez, D. K. Bradley, and B. Yaakobi, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Stimulated Raman Scattering in Long-Scale-Length Plasma Experiments on OMEGA," R. E. Bahr, W. Seka, R. S. Craxton, and A. Simon, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"A Strategy for Laser-Beam Power Balance on the OMEGA Upgrade," J. A. Delettrez, W. Seka, and R. L. Keck, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Two-Plasmon-Decay Instability in Long-Scale-Length Laser Plasmas," W. Seka, R. E. Bahr, R. S. Craxton, R. W. Short, and A. Simon, presented at the 34th Annual Meeting Division of Plasma Physics of the American Physical Society, Seattle, WA, 16–20 November 1992.

"Electro-Optic Time Domain Characterization of Coplanar Transmission Structures," R. Sobolewski, presented at the IEEE LEOS '92 Annual Meeting—Symposium on Applied Optical Diagnostics of Semiconductor Materials and Devices, Boston, MA, 16–19 November 1992.

"Confocal Microscopic Characterization of Laser-Fusion Target," H. Kim, J. M. Soures, and P.-C. Cheng, presented at the 39th AVS National Symposium and Topical Conferences, Chicago, IL, 9–13 November 1992.

"Effects of Anisotropy, Interfacial Thermal Resistance, Microstructure, and Film Thickness on the Thermal Conductivity of Dielectric Thin Films," J. C. Lambropoulos, S. D. Jacobs, S. J. Burns, and L. Shaw-Klein, presented at the 1992 ASME Winter Annual Meeting, Anaheim, CA, 8–13 November 1992.

"Laser Writing: A New Technique for High Temperature Y-Ba-Cu-O Thin Films," W. Xiong, W. Kula, and R. Sobolewski, presented at the Annual Meeting of the Rochester Chapter of IEEE Electron Device Society, Rochester, New York, 4 November 1992.

"Unity Diffraction Efficiency and Its Applications to Intense Laser–Matter Interactions," T. J. Kessler, presented at the Symposium on the Interaction of Focused Electromagnetic Fields with Optical Disk Structures, Rochester, NY, 1–2 October 1992.

"Direct-Drive Laser Fusion Target Physics Experiments," R. L. McCrory, J. M. Soures, C. P. Verdon, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, R. J. Hutchison, P. A. Jaanimagi, S. D. Jacobs, J. H. Kelly, R. L. Keck, T. J. Kessler, H. Kim, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, F. J. Marshall, P. W. McKenty, S. F. B. Morse, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, and B. Yaakobi, presented at the 14th International Atomic Energy Agency (IAEA) International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Wurzburg, Germany, 30 September–7 October, 1992.

"Neutron-Streak and Framing-Camera Diagnostics for ICF Implosions," P. A. Jaanimagi and D. K. Bradley, presented at the 20th International Congress on High Speed Photography and Phototonics, Victoria, BC, Canada, 21–25 September 1992.

"Calculations of Raman Conversions and Beam Quality of High-Intensity Laser Beams Propagated in Air," Y. Lin, T. J. Kessler, and G. N. Lawrence, presented at the OSA Annual/ILS '92, Albuquerque, NM, 20–25 September 1992.

"Laser Ionization of Noble Gases with Linear and Circular Polarization," D. D. Meyerhofer, S. Augst, B. Buerke, and J. Peatross, presented at the OSA Annual/ILS '92, Albuquerque, NM, 20–25 September 1992.

"Fabrication, Properties, and Applications of *In-Situ* Sputtered YBCO Films," A. M. Kadin, D. Gupta, D. D. Mallory, M. Takahashi, W. R. Donaldson, and J. K. Truman, presented at the 6th Annual Conference on Superconductivity and Applications, Buffalo, NY, 15–17 September 1992.

"Femtosecond Spectroscopy of Y-Ba-Cu-O Thin Films," T. Gong, L. X. Zheng, W. Xiong, W. Kula, R. Sobolewski, P. M. Fauchet, J. P. Zheng, H. W. Kwok, and J. R. Gavaler, presented at the 6th Annual Conference on Superconductivity and Applications, Buffalo, NY, 15–17 September 1992.

"Influence of the Crystalline Structure of Critical Current Density of Bi(Pb)-Sr-Ca-Cu-O Thin Films Superconducting above 100 K," W. Kula and R. Sobolewski, presented at the 6th Annual Conference on Superconductivity and Applications, Buffalo, NY, 15–17 September 1992.

"Superconducting Properties of Laser-Annealed Lines Fabricated in Oxygen-Deficient Y-Ba-Cu-O Thin Films," W. Xiong, W. Kula, R. Sobolewski, and J. R. Gavaler, presented at the 6th Annual Conference on Superconductivity and Applications, Buffalo, NY, 15–17 September 1992.

"Measurements of Low Magnetic Field Microwave Absorption in 110-K Superconducting Bi-Sr-Ca-Cu-O Thin Films," W. Kula and R. Sobolewski, presented at the 1992 Applied Superconductivity Conference, Chicago, IL, 23–28 August 1992.

"Optically Triggered Switching of Optically Thick YBCO Films," D. Gupta, W. R. Donaldson, K. Kortkamp, and A. M. Kadin, presented at the 1992 Applied Superconductivity Conference, Chicago, IL, 23–28 August 1992.

"Patterning of Thin-Film, High-$T_c$ Circuits by the Laser-Writing Method," R. Sobolewski, W. Xiong, and W. Kula, presented at the 1992 Applied Superconductivity Conference, Chicago IL, 23–28 August 1992.

"Physics of Direct-Drive Inertial Confinement Fusion," R. L. McCrory, presented at the International Conference on the Physics of Strongly Coupled Plasmas, Rochester, NY, 17–21 August 1992.

"High-Temperature Superconducting Opening Switches," D. Gupta, W. R. Donaldson, and A. M. Kadin, presented at the Fifth SDIO/ONR Pulse Power Meeting 1992, College Park, MD, 17–19 August 1992.

"Damping of Ion-Acoustic Waves in the Presence of Electron–Ion Collisions," E. M. Epperlein, R. W. Short, and A. Simon, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Effect of the Ponderomotive Force on Fast Ions in Short-Scale-Length Laser–Plasma Interactions," J. A. Delettrez, S. Gutstein, S. Uchida, and D. D. Meyerhofer, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"The Effect of Weak Electron–Ion Collisions on Ion-Sound Wave Damping," A. Simon, E. M. Epperlein, and R. W. Short, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"$K_\alpha$ Emission from High-Contrast, Picosecond Laser–Plasma Interactions," H. Chen, J. A. Delettrez, B. Soom, S. Uchida, B. Yaakobi, and D. D. Meyerhofer, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Measurements of the *P*-Polarized Intensity Enhancement in High-Contrast, Picosecond Laser-Produced Plasmas," S. Uchida, H. Chen, Y.-H. Chuang, J. A. Delettrez, and D. D. Meyerhofer, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"The Nonlinear Detuning of Multiwave Interactions," C. J. McKinstrie, X. D. Cao, and J. Li, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Nonlinear Oscillation and Chaos in Backward Four-Wave Mixing," J. Li, C. J. McKinstrie, and A. L. Gaeta, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Nonlocal Heat Transport in Spherical Plasmas Using the Fokker–Planck Code *SPARK*," E. M. Epperlein, P. Amendt, L. Powers, and L. J. Suter, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Refractive Image Distortion—An Alternative to Interferometry for Characterizing Long-Scale-Length Plasmas," R. S. Craxton and F. S. Turner, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"The Role of Continuum Lowering in Opacity Calculations for Simulations of Diagnostic Spectra," R. Epstein, B. Yaakobi, and F. J. Marshall, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"The Stimulated Brillouin Scattering Threshold in a Homogeneous CH Plasma," D. D. Meyerhofer, A. C. Gaeris, and R. W. Short, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Stimulated Raman Scattering in Long-Scale-Length Plasma Experiments on OMEGA," R. E. Bahr, W. Seka, R. S. Craxton, and A. Simon, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Thermal Stimulated Brillouin Scattering in Laser-Produced Plasmas," R. W. Short and E. M. Epperlein, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Two-Plasmon-Decay Instability and Raman Scattering in Long-Scale-Length Laser Plasmas," W. Seka, R. E. Bahr, R. S. Craxton, R. W. Short, A. Simon, D. S. Montgomery, and A. Rubenchik, presented at the 22nd Annual Anomalous Absorption Conference, Lake Placid, NY, 12–17 July 1992.

"Hydrodynamics of Direct-Drive Inertial Confinement Fusion Capsule Implosions," C. P. Verdon, presented at the AIAA 23rd Plasmadynamics and Lasers Conference, Nashville, TN, 6–8 July 1992.

"Thermal Conductivity of Thin Films and Polycrystals," J. C. Lambropoulos, presented at the 6th International Conference on Intergranular and Interphase Boundaries in Materials, Thessalonika, Greece, 21–26 June 1992.

"A Novel High Brilliance Electron Source," W. R. Donaldson and A. C. Melissinos, presented at the Third Advanced Accelerator Concepts Workshop, Port Jefferson, NY, 15–19 June 1992.

"A Pulsed-Power Electron Accelerator Using Laser-Driven Photoconductive Switches," C. Bamber, W. R. Donaldson, E. Lincke, and A. C. Melissinos, presented at the Third Advanced Accelerator Concepts Workshop, Port Jefferson, NY, 15–19 June 1992.

"A Pulse-Power Accelerator Using Laser-Driven Photoconductive Switches," C. Bamber, W. R. Donaldson, E. Lincke, and A. C. Melissinos, presented at the Third Workshop on Advanced Accelerator Concepts, Long Island NY, 14–20 June 1992.

"Laser Ionization of Noble Gases: Polarization and Pulse-Width Effects," D. D. Meyerhofer, S. Augst, B. Buerke, and J. Peatross, presented at IQEC '92, Austria Center, Vienna, 14–19 June 1992.

"Progress at the Center for Optics Manufacturing," S. D. Jacobs, presented at the SPIE International Symposium on Optical Fabrication, Testing, and Surface Evaluation, Tokyo, Japan, 10–12 June, 1992.

"Femtosecond Carrier-Carrier Interactions in GaAs," T. Gong, K. B. Ucer, L. X. Zheng, G. W. Wicks, J. F. Young, P. J. Kelly, and P. M. Fauchet, presented at the Eighth International Conference on Ultrafast Phenomena, Antibes-Juan-Les-Pins, France, 8–12 June 1992.

"Optical and Durability Properties of $Bi_2O_3$, $Cr_2O_3$, $HfO_2$, $Ta_2O_5$, $Y_2O_3$, and $ZrO_2$," J. D. Traylor and W. T. Pawlewicz, presented at Optical Interference Coatings, Fifth Topical Meeting, Tucson, AZ, 1–5 June 1992.

"Optical Coatings for the OMEGA Upgrade Laser," D. J. Smith, A. W. Schmid, Z. R. Chrzan, and S. Papernov, presented at Optical Interference Coatings, Fifth Topical Meeting, Tucson, AZ, 1–5 June 1992.

"A Physical Vapor Deposition System for OMEGA Upgrade Optics," R. G. Carnes and D. J. Smith, presented at Optical Interference Coatings, Fifth Topical Meeting, Tucson, AZ, 1–5 June 1992.

"Techniques and Applications for Large Aperture Structured Thin Films," R. J. Sczupak and D. J. Smith, presented at Optical Interference Coatings, Fifth Topical Meeting, Tucson, AZ, 1–5 June 1992.

"Direct-Drive Target Physics: An Overview," R. L. McCrory, presented at CLEO '92, Anaheim, CA, 10–15 May 1992 (invited).

"Electro-Optic Imaging of Ultrafast, High-Voltage GaAs Photoconductive Switches in Lock-On Mode," L. E. Kingsley and W. R. Donaldson, presented at CLEO '92, Anaheim, CA, 10–15 May 1992.

"Picosecond Characterization of Nanometer-Scale Metal-Semiconductor-Metal Photodiodes," T. Y. Hsiang, S. Alexandrou, C.-C. Wang, R. Sobolewski, S. Y. Chou, and Y. Liu, presented at CLEO '92, Anaheim, CA, 10–15 May 1992.

"Picosecond Separation of Electrical Transients Propagated on a Bent Coplanar Waveguide," S. Alexandrou, R. Sobolewski, and T. Y. Hsiang, presented at CLEO '92, Anaheim, CA, 10–15 May 1992.

"Spectral Dynamics Leading to Additive Pulse Mode-Locking in the NaCl Color Center Laser," S. M. Mehta, B. C. Tousley, P. J. Rodney, A. I. Lobad, and P. M. Fauchet, presented at CLEO '92, Anaheim, CA, 10–15 May 1992.

"The Temporal Mode Structure of a Regenerative Amplifier with Intra-Cavity Etalons," M. D. Skeldon and S. T. Bui, presented at CLEO '92, Anaheim, CA, 10–15 May 1992.

"The Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory,

S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at CLEO '92, Anaheim, CA, 10–15 May 1992.

"Carrier–Carrier Interactions in the Presence of Dense Plasma in GaAs," T. Gong, K. B. Ucer, Y. Kostoulas, G. W. Wicks, and P. M. Fauchet, presented at QELS '92, Anaheim, CA, 10–15 May 1992.

"Subpicosecond Hot-Hole Dynamics in Highly-Excited GaAs," T. Gong, P. M. Fauchet, P. J. Kelly, and J. F. Young, presented at QELS '92, Anaheim, CA, 10–15 May 1992.

"Confocal Microscopic Characterization of Laser-Fusion Target," H. Kim and P.-C. Cheng, presented at Scanning 92, Atlantic City, NJ, 1–3 April 1992 (invited).

"Femtosecond Dynamics of Hot Carriers in GaAs," P. M. Fauchet and T. Gong, presented at SPIE's 1992 Symposium on Compound Semiconductor Physics and Devices, Somerset, NJ, 22–26 March 1992.

"Picosecond Spectroscopy in Solids with FEL's," P. M. Fauchet, presented at SPIE's 1992 Symposium on Compound Semiconductor Physics and Devices, Somerset, NJ, 22–26 March 1992 (invited).

"Ultrafast Thermal Nonlinearities in Amorphous Silicon," P. M. Fauchet, D. Hulin, A. Mourchid, and R. Vanderhaghen, presented at SPIE's 1992 Symposium on Compound Semiconductor Physics and Devices, Somerset, NJ, 22–26 March 1992.

"Characterization of a Diode-Pumped, 3.8-cm Clear-Aperture, High-Gain, Active-Mirror Laser Amplifier Using Cr:Nd:GSGG and Nd:GGG," M. M. Tedrow, J. H. Kelly, M. J. Shoup, III, R. Juhala, A. Reynolds, L. Allen, and G. Dube, presented at the Seventh Topical Meeting on Advanced Solid-State Lasers, Santa Fe, NM, 17–19 February 1992.

"Subpicosecond Gain Dynamics in GaAs," T. Gong, P. M. Fauchet, J. P. Young, and P. J. Kelly, presented at the 1992 March Meeting of the American Physical Society, Indianapolis, IN, 16–20 March 1992.

"Time-Resolved Reflection High-Energy Electron Diffraction Studies of Laser-Heated Metal Surfaces," H. E. Elsayed-Ali, presented at the 1992 March Meeting of the American Physical Society, Indianapolis, IN, 16–20 March 1992 (invited).

"Time-Resolved Study of the Surface Structure of Pb(110) and Pb(111)," J. W. Herman and H. E. Elsayed-Ali, presented at the 1992 March Meeting of the American Physical Society, Indianapolis, IN,16–20 March 1992.

"High-Speed Gated X-Ray Imaging for ICF Target Experiments," D. K. Bradley, P. M. Bell, J. D. Kilkenny, R. Hanks, O. Landen, P. W. McKenty, P. A. Jaanimagi, and C. P. Verdon, presented at the Ninth Topical Conference on High Temperature Plasma Diagnostics, Santa Fe, NM, 15–19 March 1992 (invited).

"Measuring Laser–Plasma X-Ray Emission Using Photodiode Arrays," F. J. Marshall, J. G. Jernigan, T. Collins, J. F. Arens, and G. Pien, presented at the Ninth Topical Conference on High Temperature Plasma Diagnostics, Santa Fe, NM, 15–19 March 1992.

"The Effect of Ionic and Particulate Platinum on the Performance of Large-Aperture Nd:Phosphate Glass Rod Amplifiers," J. H. Kelly, M. J. Shoup, III, and M. M. Tedrow, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"The Effects of Doping on Photoconductive Switches as Determined by Electro-Optic Imaging," W. R. Donaldson and L. Mu, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Energy Transport in a Modern Disk Amplifier," J. H. Kelly, M. J. Shoup, III, M. M. Tedrow, and K. Thorp, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Implementation of Pulse Shaping on the OMEGA Laser System," M. D. Skeldon, S. Bui, S. A. Letzring, and W. Siryk, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Mechanical Design of 15- and 20-cm Clear-Aperture Disk Amplifiers for the OMEGA Upgrade," M. J. Shoup, III, J. H. Kelly, M. M. Tedrow, F. A. Rister, and K. Thorp, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Optically Activated Opening Switches," D. Gupta, W. R. Donaldson, K. Kortkamp, and A. M. Kadin, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Phase Conversion of Broadband Frequency-Tripled Laser Light," T. J. Kessler, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Raman Scattering in Air: A Four-Dimensional System Analysis," Y. Lin and T. J. Kessler, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"Specification of Large Aperture Nd:Phosphate Glass Laser Disks," M. J. Shoup, III, S. D. Jacobs, J. H. Kelly, C. T. Cotton, S. F. B. Morse, and S. A. Kumpan, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

"The Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at SPIE's OE/LASE, Los Angeles, CA, 20–25 January 1992.

**1991**

"Thermal Conductivity of Thin Films: Measurement and Microstructural Effects," J. C. Lambropoulos, S. D. Jacobs, S. J. Burns, L. Shaw-Klein, and S.-S. Hwang, presented at the Heat Transfer in Solid Thin Films, 1991 ASME Winter Annual Meeting, Atlanta, GA, 1–6 December 1991.

"Chemical Structure-Optical Property Relationships Involving Thermotropic Liquid Crystal Polymers Exhibiting Cholesteric Mesophase," S.-H. Chen, S. Krishnamurthy, and S. D. Jacobs, presented at the American Institute of Chemical Engineers Meeting, Los Angeles, CA, 17–22 November 1991.

"Complexation, Morphology, and Fluorescence Life Time Measurement of the Neodymium Doped Poly(ethylene Oxide)," C. Twomey, S. H. Chen, and A. W. Schmid, presented at the American Institute of Chemical Engineers Meeting, Los Angeles, CA, 17–22 November 1991.

"Investigation of Inertial Fusion Target by Confocal Microscopy and X-Ray Microtomography," H. Kim, J. M. Soures, P. C. Cheng, T. H. Lin, R. Acharya, G. Wang, W. S. Liou, W. S. Tarng, and J. K. Samarabandu, presented at the 38th Annual AVS Symposium and Topical Conference, Seattle, WA, 11–15 November 1991.

"Absorption Spectroscopy of Imploding Hollow Shell Targets on OMEGA," F. J. Marshall, J. A. Delettrez, C. P. Verdon, R. Epstein, and B. Yaakobi, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Beam Smoothing and Pulse Shaping for Solid-State Lasers," S. Skupsky, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Brillouin Scattering in the Presence of Strong Ion Collisionality," A. Simon, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Design Improvements for the OMEGA Upgrade Laser System," T. J. Kessler, T. R. Boehly, J. H. Kelly, S. A. Kumpan, S. A. Letzring, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Diagnosis of Laser Compressed Shells Based on Absorption of Core Radiation," B. Yaakobi, R. Epstein, and F. J. Marshall, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"The Effects of Phase Aberration on the Irradiation Uniformity of Focusability of Phase-Converted Laser Beams," R. Epstein, C. T. Cotton, T. J. Kessler, and S. Skupsky,

presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Evidence of Filamentation in Long-Scale-Length Plasma Experiments on OMEGA," W. Seka, D. L. Brown, R. E. Bahr, A. Simon, R. L. Short, E. M. Epperlein, and R. S. Craxton, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Experimental Determination of Low Order Legendre Mode Growth Rates in Imploding ICF Targets," D. K. Bradley, P. W. McKenty, and C. P. Verdon, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"The Filamentation Instability in the Presence of Multiple Pump Waves," R. W. Short, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Fokker–Planck Simulations of Laser Filamentation in Plasmas," E. M. Epperlein, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Fuel Ion Temperature and Neutron Yield Measurements Using the MEDUSA Neutron Detector Array," M. A. Russotto and R. L. Kremens, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"ICF-Target Performance Under the Influence of Low-Order Deliberately Applied Illumination Nonuniformities," P. W. McKenty, C. P. Verdon, S. Skupsky, D. K. Bradley, P. A. Jaanimagi, and J. P. Knauer, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Interpretation of Features in Short-Pulse Probe Images of Long-Scale-Length Plasmas on OMEGA," D. L. Brown, R. E. Bahr, and W. Seka, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Laser-Beam Pulse Shaping by Spectral Deflection Techniques," S. Skupsky, T. J. Kessler, and S. A. Letzring, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Long-Scale-Length Laser–Plasma Experiments Using the OMEGA Laser Facility," W. Seka, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Modeling Burnthrough Experiments with an Interactive Mix Model in *LILAC*," J. A. Delettrez, D. K. Bradley, and C. P. Verdon, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Momentum Conservation in Stimulated Raman Scattering," C. J. McKinstrie and M. Yu, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Novel Aspects of the Nonlinear Focusing of Light Waves," X. D. Cao, C. J. McKinstrie, and D. A. Russell, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Numerical Investigation of Self-Focusing of Broad-Bandwidth Laser Light," J. H. Kelly, P. W. McKenty, R. W. Short, and S. Skupsky, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Optical Diagnosis of Long-Scale-Length Plasmas on the OMEGA Upgrade," R. S. Craxton, W. Seka, and D. L. Brown, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"A Practical Nonlocal Model for Electron Heat Transport in Laser Plasmas," E. M. Epperlein and R. W. Short, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Stimulated Raman Scattering in Long-Scale-Length Plasma Experiments on OMEGA," R. E. Bahr, W. Seka, R. S. Craxton, and A. Simon, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Superthermal Electrons and Ion Production in Picosecond Laser-Plasma Interactions," S. Uchida, H. Chen, Y.-H. Chuang, J. A. Delettrez, and D. D. Meyerhofer, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"The Upgrade to the OMEGA Laser System," T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Wide Dynamic Range Measurement of Low Neutron Yields from Inertial Confinement Fusion Experiments Using Scintillator-Photomultiplier Detectors," R. L. Kremens and M.

A. Russotto, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"X-Ray Emission in the Post-Stagnation Phase," P. A. Jaanimagi, D. K. Bradley, and J. A. Delettrez, presented at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991.

"Improved Laser-Damage Thresholds Using Ion-Assisted Deposition," D. J. Smith, M. S. Jin, Z. R. Chrzan, A. W. Schmid, and S. Papernov, presented at the Optical Society of America 1991 Annual Meeting, San Jose, CA, 3–8 November 1991.

"Instrumentation Integration in Large Systems: the OMEGA Laser Upgrade at the University of Rochester as an Example," J. H. Kelly, presented at the Optical Society of America 1991 Annual Meeting, San Jose, CA, 3–8 November 1991 (invited).

"Self-Trapped Exciton Enhanced Photostructural Transformation in AsSe Fiber Glass," A. W. Schmid, M. S. Kim, K. Cerqua, and W. C. LaCourse, presented at the Optical Society of America 1991 Annual Meeting, San Jose, CA, 3–8 November 1991.

"Development of High Reflector Coatings at 351 nm for the OMEGA Upgrade Laser," D. J. Smith, A. W. Schmid, M. S. Jin, S. Papernov, and Z. R. Chrzan, presented at the 23rd Boulder Damage Symposium on Optical Materials for High Power Lasers, Boulder, CO, 23–25 October 1991.

"Microstructural Control of Thin Film Thermal Conductivity," L. J. Shaw-Klein, S. D. Jacobs, S. J. Burns, and J. C. Lambropoulos, presented at the 23rd Boulder Damage Symposium on Optical Materials for High Power Lasers, Boulder, CO, 23–25 October 1991.

"Ultrafast Superconducting Electronics," R. Sobolewski, presented at the Second Mideuropean Symposium and Exhibition on Semiconductor Equipment and Technology, Warsaw, Poland 22–24 October 1991 (invited).

"Direct-Drive Implosion Experiments for Laser Fusion on OMEGA and the OMEGA Upgrade," R. L. McCrory, presented at the 21st ECLIM '91, Warsaw, Poland 21–25 October 1991.

"Nonlinear Interaction Processes in Long-Scale-Length Plasma Experiments on OMEGA," W. Seka, R. S. Craxton, R. Bahr, D. L. Brown, A. Simon, R. L. Short, and L. Zheng, presented at the 21st ECLIM, Warsaw, Poland 21–25 October 1991.

"Uniform Irradiation Laser Facility for Short-Wavelength Direct-Drive Target Experiments," J. M. Soures, R. L. McCrory, C. P. Verdon, T. R. Boehly, R. S. Craxton, S. D. Jacobs, J. H. Kelly, T. J. Kessler, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, W. Seka, R. W. Short, M. D. Skeldon, and S. Skupsky, presented at the 21st ECLIM, Warsaw, Poland 21–25 October 1991.

"Laser-Shock Hardening of Hadfield Steel," J. P. Chu, G. G. Banas, H. E. Elsayed-Ali, J. M. Rigsbee, and F. V. Lawrence, Jr., presented at the TMS Fall Meeting, The American Institute of Mining, Metallurgical, and Petroleum Engineering, Cincinnati, OH, 21–24 October 1991.

"Grinding of Optical Glass with Loose Polycrystalline Synthetic Diamond Abrasives," M. J. Cumbo, A. Lingquist, S. B. Ng, T. Rich, Y. Sabharwal, and S. D. Jacobs, presented at the American Society for Precision Engineering Annual Meeting, Santa Fe, NM, 13–18 October 1991.

"Femtosecond Nonlinearities and Hot-Carrier Dynamics in GaAs," T. Gong and P. M. Fauchet, presented at the VIIth International Symposium on Ultrafast Processes in Spectroscopy, Bayreuth, Germany, 7–11 October 1991 (invited).

"Prospects for High-$T_c$ Superconducting Optoelectronics," R. Sobolewski, presented at the Conference on Superconductivity and Applications, Buffalo, NY, 24–26 September 1991.

"Analysis of Newton Rings in ICF Targets Using Narrow-Band Illumination," M. D. Wittman, A. S. Chow, and H. Kim, presented at the Target Fabrication Specialists' Meeting, Albuquerque, NM, 23–26 September 1991.

"Fabrication of Polystyrene Shells Using the Microencapsulation Technique," H. Kim, S. G. Noyes, and J. M. Soures, presented at the Target Fabrication Specialists' Meeting, Albuquerque, NM, 23–26 September 1991.

"Investigation of Inertial Fusion Target by Confocal Microscopy and X-Ray Microtomography," H. Kim, J. M. Soures, and P.-C. Cheng, presented at the Target Fabrication Specialists' Meeting, Albuquerque, NM, 23–26 September 1991.

"Measurement of the Permeation Rate of Plastic Shells Using a Newly Developed Fabry–Perot Interferometer," M. D. Wittman, R. Q. Gram, H. Kim, and J. M. Soures, presented at the Target Fabrication Specialists' Meeting, Albuquerque, NM, 23–26 September 1991.

"Thermal Conductivity of Amorphous Rare Earth-Transition Metal Thin Films for Magneto-Optic Recording," L. J. Shaw-Klein, T. K. Hatwar, S. J. Burns, S. D. Jacobs, and J. C. Lambropoulos, presented at the International Workshop on Science and Technology of Thin Films for the 21st Century, Evanston, IL, 28 July–2 August 1991.

"Angular Distribution of High-Order Harmonics Generated in the Tunneling Regime," D. D. Meyerhofer, S. Augst, C. I. Moore, and J. Peatross, presented at the 36th SPIE International Symposium, San Diego, CA, 21–26 July 1991 (invited).

"Characterization of Inertial Fusion Targets with Confocal Light Microscopy," H. Kim, P.-C. Cheng, M. D. Wittman, J. M. Soures, R. S. Acharya, T. H. Lin, and J. Samarubandu, presented at the 36th SPIE International Symposium, San Diego, CA, 21–26 July 1991.

"High-Precision Characterization of Gas-Filled Shells Using Scanning Fabry–Perot Interferometry," M. D. Wittman, D. Malacara, and H.-J. Kong, presented at the 36th SPIE International Symposium, San Diego, CA, 21–26 July 1991.

"Spatial Distribution of High Order Harmonics Generated with a ND:Glass Laser," D. D. Meyerhofer, S. Augst, J. Peatross, and C. I. Moore, presented at the presented at the 36th SPIE International Symposium, San Diego, CA, 21–26 July 1991 (invited).

"Investigation of Inertial-Fusion Targets by Confocal Microscopy and X-Ray Microtomography," H. Kim, presented at 3-D Microscopies 91, International Conference on Three Dimensional Imaging, Academia Sinica, Taipei, Taiwan, 10–12 July 1991 (invited).

"Femtosecond Carrier Scattering Processes in the Presence of a Cold Plasma," T. Gong and P. M. Fauchet, presented at the Seventh International Conference on Hot Carriers in Semiconductors (HC/S-7), Nara, Japan, 1–5 July 1991.

"Femtosecond Gain Dynamics in Thin GaAs Films," P. M. Fauchet, T. Gong, P. J. Kelly, and J. F. Young, presented at the Seventh International Conference on Hot Carriers in Semiconductors (HC/S-7), Nara, Japan, 1–5 July 1991.

"Spatial Distribution of High Order Harmonics Generated with a ND:Glass Laser," D. D. Meyerhofer, S. Augst, J. Peatross, and C. I. Moore, presented at the Big Sky Workshop on Super-Intense Laser Atom Physics, Big Sky, MT, 22–25 June 1991 (invited).

"Electric-Field Profiles in GaAs Photoconductive Switches," W. Donaldson and L. Kingsley, presented at the IEEE 8th Pulsed Power Conference, San Diego, CA, 17–19 June 1991.

"Optical Probing of Field Dependent Effects in GaAs Photoconductive Switches," W. R. Donaldson, presented at the IEEE 8th Pulsed Power Conference, San Diego, CA, 17–19 June 1991.

"Direct-Drive Laser Fusion Experiments Using Smoothing by Spectral Dispersion (SSD)," J. M. Soures, R. L. McCrory, D. K. Bradley, R. S. Craxton, J. A. Delettrez, H. Kim, P. A. Jaanimagi, T. J. Kessler, J. P. Knauer, R. Kremens, S. Letzring, F. J. Marshall, W. Seka, R. W. Short, S. Skupsky, C. Verdon, and B Yaakobi, presented at CLEO '91, Baltimore, MD, 12–17 May 1991 (invited).

"Evolution of a Broad-Band Frequency-Modulated Laser Pulse in an Inhomogeneously Broadened Gain Medium," Y.-H. Chuang, J. Peatross, D. D. Meyerhofer, and J. H. Kelly, presented at CLEO '91, Baltimore, MD, 12–17 May 1991.

"Propagation of Picosecond Transients on Bent Coplanar Waveguides," S. Alexandrou, R. Sobolewski, H. Nakano, B. C. Tousley, and T. Y. Hsiang, presented at CLEO '91 Conference, Baltimore, MD, 12–17 May 1991.

"Three-Dimensional Instabilities of Counterpropagating Light Waves," C. J. McKinstrie, G. G. Luther, and M. V. Goldman, presented at CLEO '91, Baltimore, MD, 12–17 May 1991.

"Femtosecond Refractive and Absorptive Nonlinearities Due to Real Carriers in GaAs," T. Gong and P. Fauchet, presented at QELS '91, Baltimore, MD, 12–17 May 1991.

"Spatial Distribution of High-Order Harmonics with a Nd:Glass Laser," S. Augst, D. D. Meyerhofer, J. Peatross, and C. I. Moore, presented at QELS '91, Baltimore, MD, 12–17 May 1991.

"Temperature Dependence of Femtosecond Thermoreflectivity of Thin Gold Films," H. E. Elsayed-Ali, T. Juhasz, X. H. Hu, and W. E. Bron, presented at QELS '91, Baltimore, MD, 12–17, May 1991.

"Three-Dimensional Instabilities of Counterpropagating Light Waves," C. J. McKinstrie, G. G. Luther, and M. V. Goldman, presented at QELS '91, Baltimore, MD, 12–17 May 1991.

"Interaction of $CO_2$ Laser Light with Plume Resulting from Tissue Ablation," D. Golding, W. Seka, and R. J. Lanzafame, presented at the American Society for Laser Medicine and Surgery, San Diego, CA, 29 April–1 May 1991.

"The 30-kJ OMEGA Upgrade at the University of Rochester—A Flexible, High-Performance Nd:Glass Driver," J. H. Kelly, M. J. Shoup, III, M. M. Tedrow, C. D. Kiikka, T. J. Kessler, S. A. Kumpan, A. W. Schmid, M. D. Skeldon, and D. J. Smith, presented at the IAEA Technical Committee Meeting on Drivers for Inertial Confinement Fusion, Osaka, Japan, 15–19 April 1991.

"Drivers for Inertial Confinement Fusion," S. Nakai, J. M. Soures, K. Ueda, R. N. Sudan, and G. Velarde, presented at the IAEA Technical Committee Meeting on Drivers for Inertial Confinement Fusion, Osaka, Japan, 15–19 April 1991.

"OMEGA Upgrade Laser for Direct-Drive Target Experiments," J. M. Soures, R. L. McCrory, T. R. Boehly, R. S. Craxton, S. D. Jacobs, J. H. Kelly, T. J. Kessler, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, W. D. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, and C. P. Verdon, presented at the IAEA Technical Committee Meeting on Drivers for Inertial Confinement Fusion, Osaka, Japan, 15–19 April 1991.

"Short-Wavelength-Laser Requirements for Direct-Drive Ignition and Gain," R. L. McCrory, J. M. Soures, J. P. Knauer, S. A. Letzring, F. J. Marshall, S. Skupsky, W. D. Seka, C. P. Verdon, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, R. L. Keck, T. J. Kessler, H. Kim, R. L. Kremens, P. W. McKenty, R. W. Short, and B. Yaakobi, presented at the IAEA Technical Committee Meeting on Drivers for Inertial Confinement Fusion, Osaka, Japan, 15–19 April 1991.

"Characteristics of Ion Emission from 1ps Laser-Pulse Interactions with Short-Scale-Length Plasmas," S. Uchida, H. Chen, Y.-H. Chuang, J. A. Delettrez, and D. D. Meyerhofer, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Characterization of Long-Scale-Length Plasmas on OMEGA," R. E. Bahr, W. D. Seka, R. S. Craxton, D. L. Brown, D. K. Bradley, and S. A. Letzring, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"The Filamentation Instability in the Presence of More than One Pump Wave," R. W. Short, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada 14–19 April 1991.

"Fökker–Planck Simulations of Laser Filamentation in Plasmas," E. M. Epperlein, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Further Investigations of the Role of the Rayleigh–Taylor Instability in Burnthrough Measurements," D. K. Bradley, J. A. Delettrez, and C. P. Verdon, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"The Interaction of High Intensity Lasers with Short Scale-Length Plasmas," D. D. Meyerhofer, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Long-Scale Length Plasmas for the OMEGA Upgrade," R. S. Craxton, W. D. Seka, and D. L. Brown, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Modeling of Resonance Absorption in Hydrodynamic Simulations of 1-ps Laser Pulse Interaction," J. A. Delettrez, P. Audebert, and D. D. Meyerhofer, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Nonlinear Interaction Processes in Long-Scale-Length Plasma Experiments on OMEGA," W. D. Seka, A. Simon, R. W. Short, R. E. Bahr, R. S. Craxton, D. L. Brown, D. D. Meyerhofer, and L. Zheng, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"The Optimization of Sum-Frequency Generation," X. D. Cao and C. J. McKinstrie, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"The Role of Ion Momentum in Stimulated Raman Scattering," M. Yu and C. J. McKinstrie, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Simulation of Absorption Spectra from High-Density Implosions of Argon Filled Polymer Shell Targets," R. Epstein, J. A. Delettrez, D. K. Bradley, P. A. Jaanimagi, R. C. Mancini, and C. F. Hooper, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Space-Resolved Spectroscopy of OMEGA CD Target Implosions," F. J. Marshall, J. A. Delettrez, R. S. Craxton, and C. P. Verdon, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Studies of X-Ray Emission from 1 ps Laser–Plasma Interactions," H. Chen, Y.-H. Chuang, J. A. Delettrez, P. A. Jaanimagi, S. Uchida, B. Yaakobi, and D. D. Meyerhofer, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Three-Dimensional Instabilities of Counterpropagating Light Waves," C. J. McKinstrie, G. G. Luther, and M. V. Goldman, presented at the 21st Annual Anomalous Absorption Conference, Banff, Alberta, Canada, 14–19 April 1991.

"Spatial Distribution of High-Order Harmonics Generated in the Tunneling Regime," S. Augst, D. D. Meyerhofer, J. Peatross, and C. I. Moore, presented at the Topical Meeting on Short-Wavelength Coherent Radiation: Generation and Application, Monterey, CA, 8–10 April 1991.

"Angle-Resolved X-Ray Photoemission Study of the Surface Disordering of Pb(100)," E. A. Murphy, H. E. Elsayed-Ali, K. T. Park, J. Cao, and Y. Gao, presented at the American Physical Society Meeting, Cincinnati, OH, 18–24 March 1991.

"Temperature Dependence of Time-Resolved Thermoreflectivity of Single Crystalline Gold Thin Films," T. Juhasz, X. H. Hu, W. E. Bron, and H. E. Elsayed-Ali, presented at the American Physical Society Meeting, Cincinnati, OH, 18–24 March 1991.

"Femtosecond Refractive and Absorptive Nonlinearities Due to Real Carriers in GaAs," T. Gong and P. M. Fauchet, presented at IEEE/Lasers and Electro-Optics Society of America, Picosecond Electronics and Optoelectronics Conference, Salt Lake City, UT, 13–15 March 1991.

"Femtosecond Refractive Nonlinearities Due to Real Carriers in GaAs," T. Goup, P. Mertz, and P. M. Fauchet, IEEE/Lasers and Electro-Optics Society of America, Picosecond Electronics and Optoelectronics Conference, Salt Lake City, UT, 13–15 March 1991.

"Applications of Laser-Produced Plasma as an X-Ray Source," H. Kim, presented at the 1991 Wave and Laser Symposium, Optical Society of Korea, Daeduk, Korea, 20 February 1991 (invited).

"Laser-Shock Hardening of Iron-Based Materials," J. P. Chu, G. Banas, H. E. Elsayed-Ali, J. M. Rigsbee, and F. V. Lawrence, presented at the 1991 TMS Annual Meeting, New Orleans, LA, 17–21 February 1991.

"Laser Filamentation in Plasmas," E. M. Epperlein, Topical Conference on Research Trends in Inertial Confinement Fusion, La Jolla, CA, 4–6 February 1991.

"Design and Energy Characterization of a Multi-Segment Glass Disk Amplifier," J. H. Kelly, M. Shoup, III, M. D. Skeldon, and S. T. Bui, presented at SPIE's OE/LASE '91 Conference, Los Angeles, CA, 20–25 January 1991.

"Modeling the Pedestal in a Chirped-Pulse-Amplification Laser," Y.-H. Chuang, J. Peatross, and D. D. Meyerhofer, presented SPIE's OE/LASE '91 Conference, Los Angeles, CA, 20–25 January 1991.

"OMEGA Laser Upgrade for Direct-Drive Inertial Confinement Fusion," T. J. Kessler, T. R. Boehly, R. S. Craxton, J. H. Kelly, C. D. Kiikka, S. A. Kumpan, S. Skupsky, J. M. Soures, and C. Verdon, presented at SPIE's OE/LASE '91 Conference, Los Angeles, CA, 20–25 January 1991.

"Performance of a Longitudinal Mode KD*P Pockels Cells with Transparent Conductive Coatings," M. D. Skeldon, M. S. Jin, D. J. Smith, and S. T. Bui, presented at SPIE's OE/LASE '91 Conference, Los Angeles, CA, 20–25 January 1991.

"Toward Phase Noise Reduction in a Nd:YLF Laser Using Electro-Optic Feedback Control," D. L. Brown, W. D. Seka, and S. A. Letzring, presented at SPIE's OE/LASE '91 Conference, Los Angeles, CA, 20–25 January 1991.

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"Picosecond Time-Resolved Electron Diffraction Studies of Laser Heated Metals," H. E. Elsayed-Ali, J. W. Herman, and K.-K. Lo, presented at the International Conference on Lasers 1990, San Diego, CA, 9–14 December 1990 (invited).

"Complex Formation and Morphology in Neodymium Chloride-Poly(Ethylene Oxide) System," C. J. Twomey and S. H. Chen, presented at the Materials Research Society 1990 Fall Meeting, Boston, MA, 26 November–1 December 1990.

"Helical Sense and Twisting Power in Thermotropic Side-Chain Copolymers," S. Krishnamurthy and S. H. Chen, presented at the Materials Research Society 1990 Fall Meeting, Boston, MA, 26 November–1 December 1990.

"Thermal Conductivity of Aluminum Nitride Thin Films," L. J. Shaw-Kleinn, S. J. Burns, and S. D. Jacobs, presented at the Materials Research Society 1990 Fall Meeting, Boston, MA, 26 November–1 December 1990.

"Analysis of 90 Brillouin Scattering Experiments," A. Simon, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Atomic, Radiative, and Kinetic Effects on X-Ray Absorption Lines in Inertial Confinement Experiments," R. Epstein and B. Yaakobi, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Burnthrough Measurements on the OMEGA Laser System," D. K. Bradley, J. Delettrez, P. A. Jaanimagi, and C. P. Verdon, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Demonstration of Resonantly Photo-Pumped X-Ray Laser," T. Boehly, M. Russotto, B. Yaakobi, R. Epstein, R. S. Craxton, B. MacGowan, L. DaSilva, E. Chandler, J. Nilsen, M. Eckhart, A. R. Fry, and G. Shimkaveg, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Diagnosing Long-Scale-Length Interaction Experiments on OMEGA," R. Bahr, W. Seka, R. S. Craxton, D. Bradley, P. Jaanimagi, D. Meyerhofer, and J. Soures, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"The Effect of Refraction on Filamentation," R. W. Short, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"High-Resolution X-Ray Back-Lighting of Spherical Targets," B. Yaakobi, F. J. Marshall, J. Knauer, and J. M. Soures, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"ICF Target Performance Under the Influence of Low-Order Deliberately Applied Illumination Nonuniformities," P. W. McKenty, C. P. Verdon, S. Skupsky, D. K.

Bradley, P. A. Jaanimagi, and J. P. Knauer, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Implementation and Initial Experimental Results of 9 GHz SSD on OMEGA," S. Letzring, S. Skupsky, R. Short, R. Epstein, J. P. Knauer, and F. J. Marshall, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Implosion Experiments on Solid-Shell Targets Performed on OMEGA," F. J. Marshall, C. P. Verdon, J. P. Knauer, D. K. Bradley, R. L. Keck, H. Kim, R. L. Kremens, S. A. Letzring, R. L. McCrory, M. Russotto, and J. M. Soures, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Implosion of $D_2$ Filled Plastic Shells with the OMEGA Laser," J. P. Knauer, D. K. Bradley, J. Delettrez, P. Jaanimagi, R. Keck, H. Kim, R. Kremens, S. Letzring, F. Marshall, R. L. McCrory, P. McKenty, M. Russotto, W. Seka, S. Skupsky, J. M. Soures, C. Verdon, and B. Yaakobi, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"A Kinetic Theory of Laser Beam Thermal and Ponderomotive Filamentation in Plasmas," E. Epperlein, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Laser Propagation Experiments on OMEGA with SSD," D. L. Brown, T. Kessler, S. Letzring, S. Morse, and R. L. Short, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Long-Scale Length Interaction Experiments on OMEGA," W. Seka, R. S. Craxton, R. E. Bahr, D. K. Bradley, P. A. Jaanimagi, J. P. Knauer, S. Letzring, D. D. Meyerhofer, R. W. Short, A. Simon, and J. M. Soures, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"The MEDUSA Neutron Detector," M. Russotto and R. Kremens, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Modeling the Burnthrough Experiments with an Interactive Mix Model in *LILAC*," J. Delettrez, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Neutron Measurements of Recent Direct-Drive ICF Implosion Experiments," R. Kremens and M. Russoto, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Nonlinear Wave Dynamics in a Plasma Driven by Counterpropagating Langmuir Pump Waves," D. L. Newman, M. V. Goldman, J. Glanz, P. A. Robinson, and C. J. McKinstrie, presented at the Thirty-Second Annual Meeting Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"A Novel Method to Study the Effects of Illumination Uniformity on the Rayleigh–Taylor Instability: Burnthrough Experiments," J. Delettrez, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990 (invited).

"The Production of Long-Scale-Length Plasmas on OMEGA," R. S. Craxton and W. Seka, presented Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Pulse Shape and Power Balance Measurements on OMEGA," P. A. Jaanimagi, J. Kelly, R. Keck, and W. Seka, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Results from High-Intensity, 1-ps, Laser–Plasma Interaction Experiments," D. D. Meyerhofer, D. Bradley, Y.-H. Chuang, H. Chen, J. Delettrez, R. Epstein, P. Jaanimagi, S. Uchida, and B. Yaakobi, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Sideband Instabilities and Emission from Counterpropagating Langmuir Pump Waves," J. Glanz, M. V. Goldman, D. L. Newman, and C. J. McKinstrie, presented at the Thirty-Second Annual Meeting Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Spectral Measurements of Plasma Expansion Velocities Using Spherical Targets," J. C. Moreno, H. R. Griem, S. Goldsmith, J. S. Wang, and R. Epstein, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Stimulated Raman Forward Scattering and the Relativistic Modulational Instability of Light Waves in Rarefied Plasma," C. J. McKinstrie, M. Yu, and G. G. Luther, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Studies of X-Ray and EUV Emission from 1 ps Laser–Plasma Interactions," H. Chen, Y.-H. Chuang, S. Uchida, D. Bradley, R. Epstein, P. Jaanimagi, B. Yaakobi, and D. D. Meyerhofer, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Target Irradiation Using the OMEGA Upgrade Laser System," T. Kessler, T. Boehly, R. S. Craxton, J. Kelly, S. Kumpan, R. L. McCrory, W. Seka, S. Skupsky, J. M. Soures, and

C. Verdon, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"Two-Dimensional Instabilities of Counterpropagating Light Waves," C. J. McKinstrie, M. V. Goldman, and G. G. Luther, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"X-Ray Imaging of Laser Fusion Targets Using Kirkpatrick–Baez (KB) Microscopes," G. Pien, F. J. Marshall, G. Altmann, and C. Dulnikowski, presented at the Thirty-Second Annual Meeting, Division of Plasma Physics (APS), Cincinnati, OH, 12–16 November 1990.

"High Contrast Thin Film Polarizers for Nd:Glass Laser Systems," D. J. Smith, M. S. Jin, and Z. R. Chrzan, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990.

"Issues of Pulsed-Laser Interferometry and Coherence Control," T. Kessler, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990 (tutorial).

"Properties of Sputtered Glass Films for Waveguide Applications," J. A. Hawthorne, S. N. Houde-Walter, S. Papernov, and A. W. Schmid, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990.

"Stimulated Rotational Raman Scattering in Air with a High-Power Broadband Laser," M. D. Skeldon and R. E. Bahr, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990.

"Third-Order Nonlinear Susceptibility at 1053 nm of a Series of Ester-and Tolane-Linked, Liquid-Crystal Naphthyl Compound," A. W. Schmid, K. L. Marshall, B. Puchebner, Z. W. Li, Y.-H. Chuang, and D. D. Meyerhofer, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990.

"Time-Resolved Study of Smectic A Guest-Host System Response to 488 nm Pulsed Excitation Using Laser Speckle," M. J. Guardalben, S.-G. Wang, J. Landry, and N. George, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990.

"Ultraviolet Properties of $Y_{203}$ and $Zr_{02}$ Films Produced under Various Ion-Assisted Deposition Conditions," M. S. Jin, D. J. Smith, A. Schmid, and S. Papernov, presented at the OSA Annual Meeting, Boston, MA, 4–9 November 1990.

"Optical Probing of Field Dependent Effects in GaAs Photoconductive Switches," W. R. Donaldson and L. E. Kingsley, presented at the SPIE Symposium on Laser Science and Optical Applications, OE/Boston '90, Boston, MA, 4–9 November 1990.

"Hydrodynamic Simulations, with Non-LTE Atomic Physics of High-Density Implosions of Argon-Filled Polymer Shell Targets," J. Delettrez, R. Epstein, D. K. Bradley, P. A.

Jaanimagi, R. C. Mancini, and C. F. Hooper, presented at the International Workshop on Radiative Properties of Hot Dense Matter, Sarasota, FL, 22–26 October 1990.

"Implosion of Argon-Filled Polymer Shell Targets: Experimental Aspects," P. A. Jaanimagi, D. K. Bradley, J. Delettrez, F. Marshall, R. C. Mancini, and C. F. Hooper, presented at the International Workshop on Radiative Properties of Hot Dense Matter, Sarasota, 22–26 October 1990.

"Characterization of Inertial Fusion Targets with Confocal Microscopy," H. Kim, M. D. Wittman, J. M. Soures, P. C. Cheng, R. S. Acharya, T. H. Liu, and J. Samarubandu, presented at the 37th Annual AVS Symposium and Topical Conference, Toronto, Canada, 8–12 October 1990.

"Brittle and Ductile Mode Loose Abrasive Grinding: An Examination of Surface Stresses in ULE," D. Golini and S. D. Jacobs, presented at SPIE's Application of Optical Engineering CAN-AM Eastern '90, Rochester, NY, 4–5 October 1990.

"Interaction of $CO_2$ Laser with Tissue Blow-Off Plume," D. Golding, W. Seka, and R. J. Lanzafame, presented at SPIE's Application of Optical Engineering CAN-AM Eastern '90, Rochester, NY, 4–5 October 1990.

"Laser Energy Repartition Inside Metal, Sapphire, and Quartz Surgical Laser Tips," W. Seka, D. Golding, B. Klein, R. J. Lanzafame, and D. Rogers, presented at SPIE's Application of Optical Engineering CAN-AM Eastern '90, Rochester, NY, 4–5 October 1990.

"Liquid Crystal Optics: Polarizers, Isolators and Waveplates," T. E. Gunderman, presented at SPIE's Application of Optical Engineering CAN-AM Eastern '90, Rochester, NY, 4–5 October 1990.

"Direct-Drive Implosion Experiments at the Laboratory for Laser Energetics," R. L. McCrory, J. M. Soures, J. P. Knauer, S. Letzring, F. J. Marshall, S. Skupsky, W. Seka, C. Verdon, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, R. L. Keck, T. J. Kessler, H. Kim, R. Kremens, P. W. McKenty, R. W. Short, and B. Yaakobi, presented at the Thirteenth International Atomic Energy Agency Conference on Plasma Physics and Controlled Nuclear Fusion Research, Washington, DC, 1–6 October 1990.

"Liquid-Crystal Materials for High Peak-Power Laser Applications," A. W. Schmid, S. Papernov, Z.-W. Li, K. L. Marshall, T. Gunderman, J.-C. Lee, M. J. Guardalben, and S. D. Jacobs, presented at III International Topical Meeting on Optics of Liquid Crystals, Cetraro, Italy, 1–5 October 1990.

"Barrier Suppression Ionization and High-Order Harmonic Generation in Noble Gases at Laser Intensities of 1 Atomic Unit and Above," D. D. Meyerhofer, S. Augst, C. Moore, J.

Peatross, J. H. Eberly, and S. L. Chin, presented at the International Conference on Multiphon Processes (ICOMP V), Paris, France, 24–28 September 1990.

"Demonstration of a Resonantly Photo-Pumped X-Ray Laser," T. Boehly, M. Russotto, B. Yaakobi, R. Epstein, R. S. Craxton, L. DaSilva, J. Nilsen, B. MacGowan, G. Shimkaveg, A. R. Fry, E. Chandler, and M. Eckart, presented at the 2nd International Colloquium on X-Ray Lasers, York University, York, UK, 17–21 September 1990.

"High Precision Measurements of the 24-Beam UV OMEGA Laser," P. A. Jaanimagi, C. Hesdalen, J. Kelly, and W. Seka, presented at the 19th International Congress on High-Speed Photography and Phototonics, Cambridge, England 17–21 September 1990.

"Simulation of Short-Pulse Interaction," J. Delettrez, presented at the 1990 CECAM Workshop, Orsay, France, 10–12 September 1990.

"Laser-Produced Plasma as a Light Source for X-ray Microscopy," H. Kim, B. Yaakobi, J. M. Soures, and P. C. Cheng, presented at X-Ray Microscopy 1990, King's College, London, 3–7 September 1990.

"The Study of Silica Deposition in Maize by X-Ray Microradiography and Confocal Light Microscopy," P. C. Cheng and H. G. Kim, presented at X-Ray Microscopy 1990, King's College, London, England 3–7 September 1990.

"Caviton Burnout, The Bump-on-Tail Electron Velocity Distribution, and Fast Ion Beams," A. Simon, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Development of a Collective Thomson Scattering Diagnostic Using the Ion Acoustic Decay Instability," K. Mizuno, W. Seka, R. Bahr, R. P. Drake, and J. S. DeGroote, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"The Effect of Smoothing by Spectral Dispersion (SSD) on Burnthrough Measurements Using the OMEGA Laser System," D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, and C. P. Verdon, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Effects of Nonlocal Thermal and Suprathermal Electron Transport in Simulations of 1-ps Laser–Pulse Interaction," J. Delettrez, H. Chen, E. Epperlein, D. D. Meyerhofer, and S. Uchida, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Experiments in Photo-Pumped X-Ray Lasers," T. Boehly, M. Russotto, R. Epstein, R. S. Craxton, B. Yaakobi, B. MacGowan, L. DaSilva, J. Nilsen, E. Chandler, D. Matthews, and M. Eckhart, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Filamentation of Obliquely Incident Laser Light in Inhomogeneous Plasmas," R. W. Short, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Hot Electron Energy Transport in Picosecond Laser-Plasma Interactions," S. Uchida, H. Chen, Y.-H. Chuang, J. Delettrez, and D. D. Meyerhofer, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Initial Laser–Plasma Formation," Y.-H. Chuang, H. Chen, S. Uchida, and D. D. Meyerhofer, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"A Kinetic Theory of Laser Beam Thermal Filamentation in Plasmas," E. Epperlein, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Long-Scale-Length Interaction Experiments on OMEGA," W. Seka, R. S. Craxton, R. E. Bahr, D. K. Bradley, P. A. Jaanimagi, J. P. Knauer, S. Letzring, D. D. Meyerhofer, S. F. B. Morse, R. W. Short, A. Simon, C. Verdon, and J. M. Soures, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Optical Probing Diagnostics for the OMEGA Upgrade," R. S. Craxton, W. Seka, and D. L. Brown, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Results from High-Intensity, 1-ps, Laser–Plasma Interaction Experiments," D. D. Meyerhofer, D. Bradley, Y.-H. Chuang, H. Chen, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, S. Uchida, and B. Yaakobi, presented at the 20th Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Satellite Absorption Lines and the Temperature Dependence of X-Ray Absorption Features in High-Temperature Plasmas," R. Epstein, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Stimulated Raman Forward Scattering and the Relativistic Modulational Instability of Light Waves in Rarefied Plasma," C. J. McKinstrie, L. Mu, M. Yum, and R. Bingham, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Suppression of the Pedestal and Pre-Pulse in a Chirped-Pulse Amplification Laser," Y.-H. Chuang and D. D. Meyerhofer, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Transverse Modulational Instability of Counterpropagating Waves and Conical Radiation," G. G. Luther, C. J. McKinstrie, and A. L. Gaeta, presented at the 20th Annual Anomalous Absorption Conference, Traverse City, MI, 9–13 July 1990.

"Transition Between Brittle and Ductile Mode in Loose Abrasive Grinding of ULE," D. Golini and S. D. Jacobs, presented at SPIE/1990 International Symposium on Optical and Optoelectron Applied Science and Engineering: Advanced Optical Manufacturing and Testing, San Diego, CA, 9–13 July 1990.

"Streak Camera Phosphors: Response to Ultra-Short Excitation," P. A. Jaanimagi and C. Hestdalen, presented at SPIE's 1990 International Symposium, San Diego, CA, 9–13 July 1990.

"Laser Shock Hardening of Welded Maraging Steel," Banas, F. V. Lawrence, Jr., J. M. Rigsbee, and H. E. Elsayed-Ali, presented at Surface Engineering: Current Trends and Future Prospects, University of Toronto, Canada, 25–27 June 1990.

"Observation of Barrier Suppression Ionization at Laser Intensities of 1 Atomic Unit," D. D. Meyerhofer, S. Augst, D. Strickland and S. L. Chin, presented at the Conference on Coherent Radiation Processes in Strong Fields, Washington, DC, 18–22 June 1990.

"Mechanical and Microstructural Modification of Welded Maraging Steel after Laser Shock Hardening," G. Banas, F. V. Lawrence, Jr., J. M. Rigsbee, and H. E. Elsayed-Ali, presented at MatTech '90, the First European East-West Symposium on Materials and Processes, Helsinki, Finland 10–18 June 1990.

"Chemo-Mechanical Effects in Loose Abrasive Grinding of ULE," D. Golini and S. D. Jacobs, presented at the OSA Topical Meeting on Science of Optical Finishing, Monterey, CA, 10–12 June 1990.

"Surface Preparation Technique for Rapid Measurement of Sub-Surface Damage Depth," A. Lindquist, S. D. Jacobs, and A. Feltz, presented at the OSA Topical Meeting on Science of Optical Finishing, Monterey, CA, 10–12 June 1990.

"Transverse Modulational Instability of Counterpropagating Light Waves," G. G. Luther, C. J. McKinstrie, and A. L. Gaeta, presented at the Topical Meeting on Nonlinear Dynamics in Optical Systems, Afton, OK, 4–8 June 1990.

"Femtosecond Transient Thermomodulation of Thin Gold Films with Different Crystal Structures," H. E. Elsayed-Ali, T. Juhasz, and G. O. Smith, presented at CLEO '90, Anaheim, CA, 21–25 May 1990.

"Liquid Crystal Distributed Polarization Rotator for Improved Uniformity of Focused Laser Light," T. E. Gunderman, J.-C. Lee, T. J. Kessler, S. D. Jacobs, D. J. Smith, and S. Skupsky, presented at CLEO '90, Anaheim, CA, 21–25 May 1990.

"Optical Probing of Semiconductors Carrier Dynamics," L. E. Kingsley and W. R. Donaldson, presented at CLEO '90, Anaheim, CA, 21–25 May 1990.

"Pulsed Bessel Beam Propagation," Y. Lin, H. Huang, W. Seka, and H. Eberly, presented at CLEO '90, Anaheim, CA, 21–25 May 1990.

"Harmonic Generation of Noble Gases Using High-Intensity 1-$\mu$m, 1-ps Laser," S. Augst, D. D. Meyerhofer, J. Peatross, C. I. Moore, and J. H. Eberly, presented at IQEC '90, Anaheim, CA, 21–25 May 1990.

"CB1 Observation of Barrier Suppression Ionization at Laser Intensities of 1 Atomic Unit," D. D. Meyerhofer, presented at the APS Division Meeting, Monterey, CA, 21–23 May 1990 (invited).

"Femtosecond Thermomodulation of Single-Crystalline and Polycrystalline Gold Films," H. E. Elsayed-Ali, T. Juhasz, G. O. Smith, and W. E. Bron, presented at the Seventh Topical Meeting on Ultrafast Phenomena, Monterey, CA, 14–17 May 1990.

"Femtosecond Thermoreflectivity and Thermotransmissivity of Polycrystalline and Single-Crystalline Gold Films," H. E. Elsayed-Ali, T. Juhasz, G. O. Smith, and W. E. Bron, presented at the Seventh Topical Meeting on Ultrafast Phenomena, Monterey, CA, 14–17 May 1990.

"Optical Probing of Field-Dependent Effects in GaAs Photoconductive Switches," L. E. Kingsley and W. R. Donaldson, presented at the Seventh Topical Meeting on Ultrafast Phenomena, Monterey, CA, 14–17 May 1990.

"Picosecond Transient Surface Temperature Measurement by Reflection High-Energy Electron Diffraction," H. E. Elsayed-Ali and J. W. Herman, presented at the Seventh Topical Meeting on Ultrafast Phenomena, Monterey, CA, 14–17 May 1990.

"Vendor and Subcontractor Management," R. J. Hutchison and S. A. Kumpan, presented at the OSA Regional Engineering Workshop, Rochester, NY, 10–11 May 1990.

"The OMEGA Laser Alignment System: A Real-Time VMS Application," R. C. Leary, presented at the US DECUS Spring 1990 Symposium, New Orleans, LA, 7–11 May 1990.

"ICF Laser Beam Focal Uniformity and Diagnostics," T. J. Kessler, presented at the Eighth APS Topical Conference on High-Temperature Plasma Diagnostics, Hyannis, MA, 6–10 May 1990.

"Measurement of Fuel Ion Temperatures in ICF Implosions Using Current-Mode Neutron Time-of-Flight Detectors," M. Russotto and R. Kremens, presented at the Eighth APS Topical Conference on High-Temperature Plasma Diagnostics, Hyannis, MA, 6–10 May 1990.

"Nonlinear Aspects of Raman Scattering in Plasma," A. Simon, NAS and ASUSSR Workshop on Optical and Plasma Physics, Irvine, CA, 26–30 March 1990.

"Optically Triggered Switching of Superconducting $YBa_2Cu_30_7$ Thin Films," P. H. Ballentine, A. M. Kadin, W. R. Donaldson, J. H. Scofield, and L. J. Bajuk, presented at SPIE's Symposium on Advances in Semiconductors and Superconductors; Conference on High $T_c$ Superconductors, San Diego, CA, 17–21 March 1990.

"Hot Electron Relaxation in Gold Films with Different Structures," T. Juhasz, G. O. Smith, W. E. Bron, and H. E. Elsayed-Ali, presented at the APS Meeting, Anaheim, CA, 12–16 March 1990.

"Electron Kinetics in Laser-Driven Inertial Confinement Fusion," E. M. Epperlein, presented at the Topical Conference on Research Trends in Nonlinear and Relativistic Effects in Plasmas, LaJolla, CA, 5–8 February 1990.

"Cryogenic SSD Direct-Drive Implosions on OMEGA," R. L. McCrory, J. M. Soures, C. P. Verdon, F. J. Marshall, S. A. Letzring, S. Skupsky, R. L. Kremens, J. P. Knauer, H. Kim, R. W. Short, T. J. Kessler, R. S. Craxton, J. A. Delettrez, R. L. Keck, and D. K. Bradley, presented at the 20th European Conference on Laser Interaction with Matter (ECLIM), Schliersee, Germany, 22–26 January 1990.

"Energy Balance, Power Balance, and Intensity Balance for Direct-Drive Laser Fusion Experiments," W. Seka, J. M. Soures, and J. H. Kelly, presented at the 20th European Conference on Laser Interaction with Matter (ECLIM), Schliersee, Germany, 22–26 January 1990.

"Spectroscopic Investigation of Plasma Produced with High-Intensity, 1-$\mu$m, 1-ps, Laser Pulses," H. Chen, Y.-H. Chuang, R. Epstein, D. D. Meyerhofer, S. Uchida, and B. Yaakobi, presented at SPIE's OE/LASE '90 Femtosecond to Nanosecond High Intensity Lasers and Applications, Los Angeles, CA, 14–18 January 1990.

"Transient Surface Debye–Waller Effect," H. E. Elsayed-Ali and J. W. Herman, presented at SPIE's OE/LASE '90 Femtosecond to Nanosecond High Intensity Lasers and Applications, Los Angeles, CA, 14–18 January 1990 (invited).

"Tunneling Ionization and Harmonic Generation in Krypton Gas Using a High-Intensity, 1-$\mu$m, 1-ps Laser," S. Augst, D. D. Meyerhofer, C. I. Moore, and J. Peatross, presented at presented at SPIE's OE/LASE '90 Femtosecond to Nanosecond High Intensity Lasers and Applications, Los Angeles, CA, 14–18 January 1990.

"High Intensity, Short-Pulse (1-ps), Laser Plasma Interaction at 1 $\mu$m," D. D. Meyerhofer, H. Chen, Y.-H. Chuang, J. A. Delettrez, R. Epstein, S. Uchida, and B. Yaakobi, presented at SPIE's OE/LASE '90 Femtosecond to Nanosecond High Intensity Lasers and Applications, Los Angeles, CA, 14–18 January 1990.

**1989**

"Mono-Mode Operation of an Imaging Resonator Using Nd-YLF as Active Medium," D. Y. Park, W. Seka, and L. Ying, presented at the International Conference on Lasers '89, New Orleans, LA, 3–8 December 1989.

"Operational Characteristics of an Imaging, Unstable Ring Resonator Using Nd:YLF as Active Medium," D. Y. Park, D. L. Seka, Y. Lin, and D. L. Brown, presented at the International Conference on Lasers '89, New Orleans, LA, 3–8 December 1989.

"Subnanosecond Time-Resolved Electron Diffraction from Thin Crystalline Gold Films," H.-C. Chen, G. A. Mourou, and R. S. Knox, presented at the Symposium A: Beam-Solid Interactions: Physical Phenomena, 1989 Fall Meeting, Materials Research Society, Boston, MA, 27 November–2 December 1989.

"Thermotropic Chiral Nematic Polymers as Optical Materials," S.-H. Chen, M. L. Tsai, and S. D. Jacobs, 1989 Fall Meeting, Materials Research Society, Boston, MA, 27 November–2 December 1989.

"Analysis of Current-Mode Neutron Time-of-Flight Detector Data for ICF Implosions," M. Russotto and R. Kremens, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Anticipated Improvement in Laser Beam Uniformity Using Distributed Phase Plates with Quasi-Random Patterns," R. Epstein, S. Skupsky, T. J. Kessler, W. P. Castle, N. Sampat, and S. Swales, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Characterization of Plasmas Produced by Intense, 1-ps, Laser Pulses," D. D. Meyerhofer, S. H. Batha, H. Chen, Y.-H. Chuang, J. A. Delettrez, R. Epstein, M. C. Richardson, S. Uchida, and B. Yaakobi, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Cryogenic Targets Experiments Performed with the OMEGA UV Laser System," F. J. Marshall, S. A. Letzring, C. P. Verdon, J. P. Knauer, J. M. Soures, R. L. McCrory, M. Wittman, H. Kim, R. L. Keck, D. K. Bradley, P. A. Jaanimagi, W. Seka, T. J. Kessler, and S. Skupsky, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Effects of Target Implosion Experiments on OMEGA with Variations in Laser Bandwidth Utilizing Smoothing by Spectral Dispersion (SSD)," S. Letzring, C. P. Verdon, J. P. Knauer, S. Skupsky, and R. L. Kremens, presented at the 31st Annual

Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"The Filamentation of Counter-Propagating Waves in a Finite Homogeneous Plasma," C. J. McKinstrie, G. G. Luther, and A. L. Gaeta, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Highly Smooth Laser Beams for ICF, Using Bandwidth Dispersion Techniques," S. Skupsky, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Image Distortion as a Diagnostic of Refraction in Long-Scale-Length Plasmas," R. S. Craxton, C. Darrow, G. E. Busch, and E. F. Gable, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Implosion of Gas Filled Glass Microballoons with the OMEGA Laser," J. P. Knauer, R. L. McCrory, J. M. Soures, C. P. Verdon, F. J. Marshall, S. A. Letzring, S. Skupsky, T. J. Kessler, R. L. Kremens, H. Kim, J. Delettrez, R. L. Keck, and D. K. Bradley, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Improvements to Energy and Power on OMEGA," R. L. Keck, J. P. Knauer, S. Letzring, S. Morse, W. D. Seka, and J. M. Soures, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"The Influence of Amplifier Gain Saturation on OMEGA Power Balance," J. M. Soures, J. H. Kelly, S. F. B. Morse, J. P. Knauer, S. Letzring, R. L. McCrory, and W. Seka, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Laser Beam Filamentation in Direct-Drive ICF Targets," E. M. Epperlein, C. J. McKinstrie, and G. G. Luther, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Numerical Determination of the Effects of Laser Power on the Levels of Illumination Nonuniformities," P. W. McKenty, S. Skupsky, D. K. Bradley, W. Seka, and C. P. Verdon, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Observation of X-Ray Gain in Collisionally Excited Germanium Targets," B. Yaakobi, T. R. Boehly, J. Wang, R. Epstein, and R. S. Craxton, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Ponderomotive Filamentation in Counter-Propagating Geometry," G. G. Luther and C. J. McKinstrie, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Positioner for Laser Fusion Diagnostics Used on the OMEGA," G. Pien, F. J. Marshall, S. A. Letzring, C. Dulnikowski, and A. Hauer, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Pulse Shape and Power Balance Measurements on OMEGA," P. A. Jaanimagi, J. Kelly, R. Keck, W. Seka, and R. Saunders, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"The Role of the Rayleigh–Taylor Instability in Spherical Burnthrough Experiments at 0.35 $\mu$m," J. Delettrez, C. P. Verdon, D. K. Bradley, and P. A. Jaanimagi, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Self-Focusing and Dielectric Laser Breakdown," D. L. Brown, W. Seka, and T. R. Boehly, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Self-Focusing and Smoothing by Spectral Dispersion," R. W. Short, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Self-Focusing in Glass and Transparent Plastics Coating in Multi-Layer Targets Relevant to Laser Fusion," W. Seka, D. L. Brown, T. R. Boehly, D. K. Bradley, T. Balasubramanian, and R. E. Bahr, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Shine-Through Early-Time Phenomena in Laser-Fusion Targets," T. Boehly, D. Bradley, D. Brown, J. Knauer, W. Seka, D. Smith, and C. P. Verdon, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"A Small Array of Single-Hit Neutron Detectors," R. Kremens and M. Russotto, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Studies of the Saturated Plasma Wave Regime in the Enhanced Thomson Model of Raman Scattering," A. Simon, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Theoretical Interpretation of OMEGA Glass Ablator Implosion Experiments," C. P. Verdon, J. Knauer, D. K. Bradley, J. Delettrez, P. A. Jaanimagi, R. L. Keck, R. L. Kremens, S. Letzring, F. J. Marshall, R L McCrory, S Skupsky, and J. M. Soures, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Time-Resolved X-Ray Imaging of Implosion Experiments on the OMEGA Laser System," D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, C. P. Verdon, J. D. Kilkenny, and P. Bell, presented at the 31st Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 13–17 November 1989.

"Early-Time 'Shine-Through' in Laser Irradiated Targets," D. K. Bradley, T. R. Boehly, D. L. Brown, J. A. Delettrez, W. Seka, and D. Smith, presented at the Ninth Workshop of Laser Interaction and Related Plasma Phenomena Matter, Monterey, CA, 6–10 November 1989.

"Observation of Gain in Le-Like Germanium and Other X-Ray Laser Developments at LLE," T. Boehly, J. Wang, B Yaakobi, R. S. Craxton, and R. Epstein, presented at the Ninth Workshop of Laser Interaction and Related Plasma Phenomena Matter, Monterey, CA, 6–10 November 1989.

"Self-Focusing in Transparent Dielectric Media and Subsequent Surface Break-Down and Plasma Production," W. Seka, D. Brown, T. R. Boehly, D. K. Bradley, T. Balasubramanian, and R. E. Bahr, presented at the Ninth Workshop of Laser Interaction and Related Plasma Phenomena Matter, Monterey, CA, 6–10 November 1989.

"Thin Films for High Power Lasers," S. D. Jacobs, presented at the Seminar at Physics Department, Arizona State University, Tempe, AZ, 3 November 1989.

"Film Thermal Conductivity and Laser Damage Resistance of Optical Thin Films," J. C. Lambropoulos and S.-S. Hwang, presented at the Symposium on Electro-Optics and Nonlinear Optics, 1st International Ceramic Science and Technology Congress, Anaheim, CA, 31 October–3 November 1989.

"Computer-Assisted Microballoon Selection for Inertial Confinement Fusion Targets," C. K. Immesoete, S. Scarantino, H. Kim, and L. Forsley, presented at the American Vacuum Society 36th National Symposium and Topical Conference, Boston, MA, 23–27 October 1989.

"A New Shearing Interferometer for Real-Time Characterization of Cryogenic Laser Fusion Targets," M. D. Wittman, H. Kim, and H. Kong, presented at the American Vacuum Society 36th National Symposium and Topical Conference, Boston, MA, 23–27 October 1989.

"Uniform Liquid-Fuel Layer Produced in a Cryogenic Inertial Fusion Target by a Time-Dependent Thermal Gradient," R. Q. Gram, M. D. Wittman, C. Immesoete, H. Kim, R. S. Craxton, N. Sampat, S. Swales, G. Pien, J. M. Soures, and H. Kong, presented at the American Vacuum Society 36th National Symposium and Topical Conference, Boston, MA, 23–27 October 1989.

"Uniformity of Condensed DT Layers in Gas-Cooled Inertial Fusion Targets," R. Q. Gram, M. D. Wittman, C. Immesoete, H. Kim, R. S. Craxton, N. Sampat, S. Swales, G. Pien, and H. Kong, presented at the American Vacuum Society 36th National Symposium and Topical Conference, Boston, MA, 23–27 October 1989.

"Laser Beam Smoothing by Exploitation of Light Parameters," T. Kessler and S. Skupsky, OSA Annual Meeting, Orlando, FL, 15–20 October 1989.

"Stress Measurements of Transparent Optical Materials Using a Beam Scanning Modulated Transmission Ellipsometer," J. E. Hayden and S. D. Jacobs, presented at the OSA Annual Meeting, Orlando, FL, 15–20 October 1989.

"Computer Assisted Microballoon Selection for Inertial Confinement Targets," H. Kim, C. Immesoete, and S. Scarantino, presented at the Seventh Target Fabrication Specialists' Meeting, LLNL, Livermore, CA, 25–29 September 1989.

"Direct-Drive Implosion Experiments at LLE," J. M. Soures, presented at the Seventh Target Fabrication Specialists' Meeting, Livermore, CA, 25–29 September 1989 (invited).

"A Shearing Interferometer for Real-Time Characterization of Cryogenic Laser Fusion Targets," H. G. Kim, M. D. Wittman, and J. M. Soures, presented at the Seventh Target Fabrication Specialists' Meeting, LLNL, Livermore, CA, 25–29 September 1989.

"Uniformity of Condensed DT Layers in Gas-Cooled Inertial Fusion Targets," H. Kim, R. Q. Gram, M. D. Wittman, C. Immesoete, R. S. Craxton, N. Sampat, S. Swales, G. Pien, and J. M. Soures, presented at the Seventh Target Fabrication Specialists' Meeting, LLNL, Livermore, CA, 25–29 September 1989.

"Comparison of Multiphoton and Collisional Ionization in High Intensity Laser–Plasma Interactions," D. D. Meyerhofer, S. Augst, Y.-H. Chuang, J. A. Delettrez, and M. C. Richardson, presented at the OSA Topical Meeting on High Energy Density Physics with Subpicosecond Lasers, Snowbird, UT, 11–13 September 1989.

"High Intensity Picosecond Pulse Interaction Experiments," M. C. Richardson, H. Chen, Y.-H. Chuang, J. Delettrez, R. Epstein, T. Kessler, D. D. Meyerhofer, S. Uchida, and B. Yaakobi, presented at the OSA Topical Meeting on High Energy Density Physics with Subpicosecond Lasers, Snowbird, UT, 11–13 September 1989.

"Hot Electron Relaxation in Metals," H. E. Elsayed-Ali, presented at the OSA Topical Meeting on High Density Physics with Subpicosecond Lasers, Snowbird, UT, 11–13 September 1989 (invited).

"Pulse Shape Measurements on OMEGA," P. A. Jaanimagi, R. Saunders, C. Hestdalen, W. Van Remmen, and M. Russotto, presented at SPIE's 33rd Annual Symposium on Optical and Optoelectronic Applied Science Engineering, San Diego, CA, 6–11 August 1989.

"Pulse X-Ray Contact Microradiography and Real-Time X-Ray Projection Micrography," H. Kim and P.-C. Cheng, presented at SPIE's 33rd Annual Symposium X-Ray/EUV Optics for Astronomy and Microscopy, San Diego, CA, 6–11 August 1989.

"Confocal Microscopy and its Applications in Structural and Developmental Botany," P.-C. Cheng, V. H. Chen, H. Kim, and R. E. Pearson, presented at the Botanical Society of American/Canadian Botanical Association Joint Meeting, Toronto, Canada, 6–10 August 1989.

"The Use of X-Ray Contact Microradiography in the Study of Silica Deposition in the Leaf Blade of Maize," P.-C. Cheng and H. Kim, presented at the Botanical Society of American/Canadian Botanical Association Joint Meeting, Toronto, Canada, 6–10 August 1989.

"Nonequilibrium Hot-Electron Transport in Optically Irradiated YBCO Films," A. M. Kadin, W. R. Donaldson, P. H. Ballentine, and R. Sobolewski, presented at the International M2S-HTSC Conference, Stanford, CA, 23–28 July 1989.

"Chemo-Mechanical Prepolish of Glass for Reducing Subsurface Damage and Polishing Time," A. Lindquist, S. D. Jacobs, and V. Plotsker, presented at the Conference on Large Optics, Griffiss AFB, NY, 11–13 July 1989.

"Thermal Conductivities for Twenty-Two Oxide and Fluoride Thin Films," S. D. Jacobs and J. C. Lambropoulos, presented at the Conference on Large Optics, Griffiss AFB, NY, 11–13 July 1989.

"High-Order Harmonic Generation Using the Tabletop Terawatt Laser," D. D. Meyerhofer, S. Augst, S. L. Chin, J. H. Eberly, and Q. Su, presented at the Conference on Super-Intense Laser-Atom Physics, Rochester, NY, 28–30 June 1989.

"Multiphon Ionization of Noble Gases in the Tunneling Limit," S. Augst, D. Strickland, S. L. Chin, J. H. Eberly, and D. D. Meyerhofer, presented at the Conference on Super-Intense Laser-Atom Physics, Rochester, NY, 28–30 June 1989.

"Absolute and Convective Instabilities in Infinite Homogeneous Media," C. J. McKinstrie, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Anticipated Improvement in Laser Beam Uniformity Using Distributed Phase Plates with Quasi-Random Patterns," R. Epstein and S. Skupsky, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Calculation of Inverse Bremsstrahlung Absorption of High-Intensity Laser Light in Short-Scale-Length Plasmas," D. D. Meyerhofer, Y.-H. Chuang, J. A. Delettrez, and M. C. Richardson, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Characterization of Plasmas Produced by Intense, 1-ps, Laser Pulses," Y.-H. Chuang, S. H. Batha, H. Chen, D. D. Meyerhofer, M. C. Richardson, and S. Uchida, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Comparison of Enhanced Thomson Scattering from Long- and Short-Scale-Length Plasmas," S. H. Batha, D. D. Meyerhofer, and A. Simon, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Energy, Power Balance, and Irradiation Uniformity on OMEGA," W. Seka, R. L. Keck, S. Letzring, S. F. B. Morse, and J. M. Soures, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Enhanced Laser Penetration and Self-Focusing in Large Scale Underdense Plasma," E. M. Epperlein, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"The Filamentation of Two Counterpropagating Waves," G. G. Luther, C. J. McKinstrie, and R. W. Short, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Hydrodynamic Simulations of Ultrashort Laser Pulse Interaction," J. Delettrez, D. D. Meyerhofer, and M. C. Richardson, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Improved Laser-Beam Uniformity Using the Angular Dispersion of Frequency-Modulated Light," S. Skupsky, R. W. Short, T. J. Kessler, R. S. Craxton, S. Letzring, and J. M. Soures, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Improvements to Energy and Power Balance on OMEGA," R. L. Keck, W. Seka, S. Letzring, S. Morse, and J. M. Soures, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Numerical Studies of X-Ray Emission by Fast Electron Pulses," A. Simon, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"The Relativistic Modulational Instability of Light Waves in Rarefied Plasma," C. J. McKinstrie, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Shine-Through Early-Time Phenomena in Laser-Fusion Targets," T. Boehly, D. Bradley, and J. Delettrez, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Stimulated Raman Scattering in the Caustic Illumination Sheath Surrounding a Laser Fusion," R. W. Short, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"X-Ray Laser Emission from Long Line-Focus Plasmas," R. S. Craxton, presented at the 19th Annual Anomalous Absorption Conference, Durango, CO, 19–23 June 1989.

"Computer-Assisted Microballoon Selection for Laser Fusion Targets," C. Immesoete, H. Kim, and L. Forsley, 1989 Rochester Forth Conference, Rochester, NY, 19–23 June 1989.

"1054-nm Damage Thresholds for Monomeric and Polymeric-Side-Chain Liquid Systems," M. Guardalben, A. Schmid, S. Jacobs, and S. H. Chen, presented at the U.S. Army Science Symposium on Nonlinear Optical Polymers, Natick, MA, 13–14 June 1989.

"External Electro-Optic Probing of Millimeter-Wave Integrated Circuits," J. F. Whitaker, J. A. Valdmanis, T. A. Jackson, K. B. Bhasin, B. Romanofsky, and G. A. Mourou, presented at the 1989 IEEE Microwave Theory and Techniques Symposium, Long Beach, CA, 12–13 June 1989.

"High-Frequency Characterization of Superconducting Transmission from Picosecond Transient Measurements," T. Y. Hsiang, J. F. Whitaker, R. Sobolewski, S. Martinet, and L. P. Golob, presented at the International Superconductivity Electronics Conference, Tokyo, Japan, 12–13 June, 1989 (invited).

"Optically Activated High Temperature Superconductor Opening Switches," W. R. Donaldson, A. M. Kadin, P. H. Ballentine, and M. J. Shoup, presented at the 7th IEEE Pulsed Power Conference, Monterey, CA, 11–14 June 1989.

"The Modulational Instability of Counterpropagating Waves," C. J. McKinstrie and G. G. Luther, presented at the Spring College on Plasma Physics, International Centre for Theoretical Physics, Trieste, Italy, 22–26 May 1989.

"Analysis of Multiple-Foil XRL Targets Using X-Ray Spectroscopy," J. Wang, T. R. Boehly, B. Yaakobi, D. Shvarts, R. Epstein, D. D. Meyerhofer, M. C. Richardson, M. Russotto, and J. M. Soures, presented at the IEEE International Conference on Plasma Science, Buffalo, NY, 22–24 May 1989.

"The Filamentation of Two Counterpropagating Waves," G. G. Luther, C. J. McKinstrie, and R. W. Short, presented at the IEEE International Conference on Plasma Science, Buffalo, NY, 22–24 May 1989.

"Recent Developments in X-Ray Laser Research at LLE," T. R. Boehly, B. Yaakobi, R. S. Craxton, R. Epstein, M. C. Richardson, M. Russotto, D. Shvarts, J. M. Soures, and J. Wang, presented at the IEEE International Conference on Plasma Science, Buffalo, NY, 22–24 May 1989.

"Amplification of 100 fs mJ Pulses in Alexandrite Using Chirped Pulse Techniques," M. Pessot, J. Squier, G. Mourou, and D. J. Harter, presented at the Tunable Solid State Laser Conference, Cape Cod, MA, 1–3 May 1989.

"Chemo-Mechanical Prepolish of Phosphate Laser Glass for Reducing Subsurface Damage," A. Lindquist, S. D. Jacobs, and V. Plotsker, presented at the American Society for Precision Engineering (ASPE) Conference on Sub-Surface Damage in Glass, Tucson, AZ, 25–27 April 1989.

"Amplification of 100 fs Pulses in Alexandrite Using Chirped Pulse Techniques," M. Pessot and G. Mourou, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"Broadband Phase Conversion of the Frequency-Tripled OMEGA Laser," T. Kessler, S. Letzring, S. Skupsky, M. Skeldon, S. Morse, and P. Jaanimagi, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"Efficient Third-Harmonic Generation with a Broadband Laser," M. D. Skeldon, T. Kessler, R. S. Craxton, S. Skupsky, W. Seka, and J. M. Soures, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"Electrical Switching in Superconducting YBCO Thin Films Using Picosecond Optical Pulses," W. Donaldson, P. Ballentine, and A. Kadin, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"A High-Energy, Short-Pulse, Multiwavelength, Slab-Geometry Nd:Phosphate Glass Laser Source," M. J. Shoup and J. H. Kelly, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"Power Balancing of Multi-Beam Laser Fusion Lasers," W. Seka, S. F. B. Morse, S. Letzring, R. Kremens, T. J. Kessler, P. A. Jaanimagi, R. L. Keck, C. Verdon, and D. Brown, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"Profile Tunable Laser Beam Apodizer," J. C. Lee, S. D. Jacobs, T. J. Kessler, and N. Van Lieu, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"Two-Dimensional Electro-Optic Imaging," L. E. Kingsley and W. R. Donaldson, presented at CLEO '89, Baltimore, MD, 24–28 April 1989.

"High Intensity Multiphoton Ionization Experiments at 1053 nm," S. Augst, D. Strickland, S. L. Chin, J. H. Eberly, and D. D. Meyerhofer, presented at the QELS Conference, Baltimore, MD, 24–28 April 1989.

"Picosecond Laser Plasma X-Ray Source," S. Uchida, M. C. Richardson, H. Chen, Y.-H. Chuang, P. Jaanimagi, D. D. Meyerhofer, and B. Yaakobi, presented at the QELS Conference, Baltimore, MD, 24–28 April 1989.

"Ultrafast High Power Switching: Techniques and Applications," W. R. Donaldson, presented at Electro '89, New York, NY, 11–13 April 1989.

"A Real-Time EPI-Fluorescent Confocal Microscope," P.-C. Cheng, V. H. Chen, H. Kim, and R. E. Pearson, presented at the 1st International Conference on Confocal Microscopy and 2nd International Conference on 3-D Image Processing in Microscopy, Amsterdam, The Netherlands, 15–17 March 1989.

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"Picosecond and Femtosecond Laser Systems for Particle Accelerator Applications," W. R. Donaldson, presented at the Switched Power Workshop, Long Island NY, 16–21 October 1988.

"Computer Modeling and Simulation in Inertial Confinement Fusion," R. L. McCrory and C. P. Verdon, presented at the International School of Plasma Physics/Inertial Confinement Course and Workshop, Varenna, Italy, 6–16 September 1988.

"High-Power Laser Systems Applications to ICF," R. L. McCrory, presented at the 35th Scottish Universities Summer School in Physics, St. Andrews, Scotland, 12–20 August 1988.

"Time-Resolving X-Ray Diagnostics for ICF," P. A. Jaanimagi, D. K. Bradley, J. Duff, G. G. Gregory, and M. C. Richardson, presented at the 7th Topical Conference on High Temperature Plasma Diagnostics, Napa, CA, 13–19 March 1988.