Publications and Conference Presentations

Publications

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Forthcoming Publications

H. Aluie, "Convolutions on the Sphere: Commutation with Differential Operators," to be published in GEM: International Journal on Geomathematics.

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C. Dorrer, "Spatiotemporal Metrology of Broadband Optical Pulses," to be published in IEEE Journal on Selected Topics in Quantum Electronics.

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M. Gatu Johnson, B. D. Appelbe, J. P. Chittenden, A. Crilly, J. Delettrez, C. Forrest, J. A. Frenje, V. Yu. Glebov, W. Grimble, B. M. Haines, I. V. Igumenshchev, R. Janezic, J. P. Knauer, B. Lahmann, F. J. Marshall, T. Michel, F. H. Séguin, C. Stoeckl, C. Walsh, A. B. Zylstra, and R. D. Petrasso, "Impact of Imposed Mode 2 Laser Drive Asymmetry on Inertial Confinement Fusion Implosions," to be published in Physics of Plasmas.

V. Gopalaswamy, R. Betti, 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. Y. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, O. M. Mannion, A. Maximov, F. J. Marshall, D. T. Michel, S. Miller, S. F. B. Morse, J. Palastro, J. 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, J. D. Zuegel, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, "Tripled Yield in Direct-Drive Laser Fusion Through Statistical Modeling," to be published in Nature.

R. J. Henchen, M. Sherlock, W. Rozmus, J. Katz, P. E. Masson-Laborde, D. Cao, J. P. Palastro, and D. H. Froula, "Measuring Heat Flux from Collective Thomson Scattering with Non-Maxwellian Distribution Functions," to be published in Physics of Plasmas (invited).

D. P. Higginson, J. S. Ross, D. D. Ryutov, F. Fiuza, S. C. Wilks, E. P. Hartouni, R. Hatarik, C. M. Huntington, J. Kilkenny, B. Lahmann, C. K. Li, A. Link, R. D. Petrasso, B. B. Pollock, B. A. Remington, H. G. Rinderknecht, Y. Sakawa, H. Sio, G. F. Swadling, S. Weber, A. B. Zylstra, and H.-S. Park, "Kinetic Effects on Neutron Generation in Moderately Collisional Interpenetrating Plasma Flows," to be published in Physics of Plasmas.

K. R. P. Kafka and S. G. Demos, "Interaction of Short Laser Pulses with Model Contamination Microparticles on a High Reflector," to be published in Optics Letters.

A. Kar, T. R. Boehly, P. B. Radha, D. H. Edgell, S. X. Hu, P. M. Nilson, A. Shvydky, W. Theobald, D. Cao, K. S. Anderson, V. N. Goncharov, and S. P. Regan, "Simulated Refraction-Enhanced X-Ray Radiography of Laser-Driven Shocks," to be published in Physics of Plasmas.

P. F. Knapp, M. R. Gomez, S. B. Hansen, M. E. Glinsky, C. A. Jennings, S. A. Slutz, E. C. Harding, K. D. Hahn, M. R. Weis, M. Evans, M. R. Martin, A. J. Harvey-Thompson, M. Geissel, I. C. Smith, D. E. Ruiz, K. J. Peterson, B. M. Jones, J. Schwarz, G. A. Rochau, D. B. Sinars, R. D. McBride, and P.-A. Gourdain, "Origins and Effects of Mix on Magnetized Liner Inertial Fusion Target Performance," to be published in Physics of Plasmas.

K. Kopp and S. G. Demos, "Microscopy with Ultraviolet Surface Excitation (MUSE) Enables Translation of Optical Biopsy Principles to Enhance Life Science Education," to be published in Proceedings of SPIE.

A. Koroliov, G. Chen, K. M. Goodfellow, A. N. Vamivakas, Z. Staniszewski, P. Sobolewski, M. El Fray, A. Łaszcz, A. Czerwinski, C. P. Richter, and R. Sobolewski, "Terahertz Time-Domain Spectroscopy of Graphene Nanoflakes Embedded in Polymer Matrix," to be published in Applied Sciences.

A. A. Kozlov, J. C. Lambropoulos, J. B. Oliver, B. N. Hoffman, and S. G. Demos, "Mechanisms of Picosecond Laser-Induced Damage in Common Multilayer Dielectric Coatings," to be published in Scientific Reports.

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, "Tunable UV Upgrade on OMEGA EP," to be published in Proceedings of SPIE.

S. LePape, L. Divol, A. MacPhee, J. McNaney, M. Hohenberger, D. Froula, V. Glebov, O. L. Landen, C. Stoeckl, E. Dewald, S. Khan, C. Yeamans, P. Michel, M. Schneider, J. Knauer, J. Kilkenny, and A. J. Mackinnon, "Optimization of High-Energy X Ray Production Through Laser–Plasma Interaction," to be published in High Energy Density Physics.

Y. Lu, P. Tzeferacos, E. Liang, R. K. Follett, L. Gao, A. Birkel, D. H. Froula, W. Fu, H. Ji, D. Lamb, C. K. Li, H. Sio, R. Petrasso, and M. S. Wei, "Numerical Simulation of Magnetized Jet Creation Using a Hollow Ring of Laser Beams," to be published in Physics of Plasmas.

A. Macrander, N. Pereira, C. Stoeckl, X. Huang, and E. Kasman, "Quartz Conditioning Crystal for X-Ray Rocking Curve Topography," to be published in the Journal of Applied Crystallography.

A. L. Milder, S. T. Ivancic, J. P. Palastro, and D. H. Froula, "Impact of Non-Maxwellian Electron Velocity Distribution Functions on Inferred Plasma Parameters in Collective Thomson Scattering," to be published in Physics of Plasmas.

R. Paul, S. X. Hu, and V. V. Karasiev, "Anharmonic and Anomalous Trends in the High-Pressure Phase Diagram of Silicon," to be published in Physical Review Letters.

M. J. Rosenberg, R. Epstein, A. A. Solodov, W. Seka, J. F. Myatt, P. A. Michel, M. A. Barrios, D. B. Thorn, M. Hohenberger, J. D. Moody, and S. P. Regan, "X-Ray Spectroscopy of Planar Laser–Plasma Interaction Experiments at the National Ignition Facility," to be published in Physics of Plasmas.

M. J. Rosenberg, D. B. Thorn, N. Izumi, D. Williams, M. Rowland, G. Torres, M. Haugh, P. Hillyard, N. Adelman, T. Schuler, M. A. Barrios, J. P. Holder, M. B. Schneider, K. B. Fournier, D. K. Bradley, and S. P. Regan, "Image-Plate Sensitivity to X Rays at 2 to 60 keV," to be published in Review of Scientific Instruments.

J. Serafini, A. Hossain, R. B. James, S. B. Trivedi, and R. Sobolewski, "Time-Resolved, Nonequilbrium Carrier and Coherent Acoustic Phonon Dynamics in (Cd,Mg)Te Single Crystals for Radiation Detectors," to be published in Semiconductor Science and Technology.

H. Sio, J. A. Frenje, A. Le, S. Atzeni, T. J. T. Kwan, M. Gatu Johnson, G. Kagan, C. Stoeckl, C. K. Li, C. E. Parker, C. J. Forrest, V. Glebov, N. V. Kabadi, A. Bose, H. G. Rinderknecht,

P. Amendt, D. T. Casey, R. Mancini, W. T. Taitano, B. Keenan, A. N. Simakov, L. Chacón, S. P. Regan, T. C. Sangster, E. M. Campbell, F. H. Seguin, and R. D. Petrasso, "Observations of Multiple Nuclear Reaction Histories and Fuel-Ion Species Dynamics in Shock-Driven Inertial Confinement Fusion Implosions," to be published in Physical Review Letters.

R. Sobolewski, "Optical Sensors," to be published in the Handbook of Superconducting Materials.

R. B. Spielman and D. B. Reisman, "On the Design of Magnetically Insulated Transmission Lines for *Z*-Pinch Loads," to be published in Matter and Radiation at Extremes.

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, "Flying Focus and Its Application to Plasma-Based Laser Amplifiers," to be published in Plasma Physics and Controlled Fusion.

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, "In-Tank, On-Shot Characterization of the OMEGA Laser System Focal Spot," to be published in Proceedings of SPIE.

B. Webb, M. J. Guardalben, C. Dorrer, S. Bucht, and J. Bromage, "Simulation of Grating Compressor Misalignment Tolerances and Mitigation Strategies for Chirped-Pulse–Amplification Systems of Varying Bandwidths and Beam Sizes," to be published in Applied Optics.

R. P. Young, C. C. Kuranz, D. Froula, J. S. Ross, and S. Klein, "Observation of Collisionless-to-Collisional Transition in Colliding Plasma Jets with Optical Thomson Scattering," to be published in Physics of Plasmas.

M. Zaghoo, T. R. Boehly, J. R. Rygg, P. M. Celliers, S. X. Hu, and G. W. Collins, "Breakdown of Fermi Degeneracy in the Simplest Liquid Metal," to be published in Physical Review Letters.

Conference Presentations

The following presentations were made at the CEA–NNSA Joint Diagnostic Meeting, Le Barp, France, 2–3 October 2018:

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, "OMEGA Neutron Imaging Project."

W. Theobald, "3-D Hot-Spot X-Ray Imaging for OMEGA DT Cryogenic Implosions."

The following presentations were made at the CELIA Seminar, Bordeaux, France, 3 October 2018:

S. X. Hu, W. Theobald, J. L. Peebles, S. P. Regan, P. B. Radha, D. T. Michel, Y. H. Ding, V. N. Goncharov, T. R. Boehly, R. Epstein, E. M. Campbell, G. Duchateau, A. Casner, V. Tikhonchuk, L. A. Collins, J. D. Kress, and B. Militzer, "Understanding ICF Implosions on OMEGA: From Intrinsic Material Properties to Laser Imprint."

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, "Laser–Plasma Instabilities and Hot-Electron Generation in the Shock-Ignition Intensity Regime."

The following presentations were made at the First LMJ–PETAL User Meeting, Bordeaux, France, 4–5 October 2018:

E. M. Campbell, "A Perspective on the Future of ICF and HEDP Research."

W. Theobald, R. Betti, A. Bose, S. X. Hu, E. M. Campbell, S. P. Regan, C. McCoy, A. Casner, L. Ceurvorst, and M. Karasik, "The Hybrid Target Approach: A Promising Path Forward to Mitigate Laser Imprint in Direct-Drive Inertial Confinement Fusion."

M. S. Wei and J. M. Soures, "Overview of the Omega Laser Facility and Basic Science User Program."

E. M. Campbell, "Fusion: Making a Star on Earth and the Quest for the Ultimate Energy Source to Power the Planet," presented at the AEFM Seminar, Rochester, NY, 11 October 2018.

Y. Zhao, "AlGaN Metal–Semiconductor–Metal UV Photodetectors," presented at Industrial Associates, Rochester, NY, 19 October 2018.

The following presentations were made at the 4th International Conference on High Energy Density Physics, Ningbo, China, 21–25 October 2018:

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, "Progress Toward Ignition and Burn in Inertial Confinement Fusion."

D. H. Froula, J. P. Palastro, D. Turnbull, T. J. Kessler, A. Davies, 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, and J. L. Shaw, "Flying Focus: Spatiotemporal Control of Intensity for Laser-Based Applications."

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, "Direct-Drive, High-Adiabat, Cryogenic Implosion Results from the OMEGA Laser System" (invited).

K. Luo, D. Mejia-Rodriguez, V. V. Karasiev, J. Dufty, and S. B. Trickey, "Development of Free Energy Density Functional Theory: Predictive Power of First Principles Approximations for Warm Dense Matter."

The following presentations were made at Tritium Focus Group-Sandia, Albuquerque, NM, 22–25 October 2018:

D. Bassler, C. Fagan, W. T. Shmayda, and W. U. Schröder, "Tritium Interactions with Thin Films of Al_2O_3 on Stainless-Steel 316."

C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schroder, "Low-Pressure, Radio-Frequency–Generated Plasma for Tritium Desorption from Metals."

M. Sharpe, C. Fagan, and W. T. Shmayda, "Influence of Microstructure on the Absorption of Tritium into Gold-Plated 316 Stainless Steel."

W. T. Shmayda, N. P. Redden, and R. Earley, "Enhancing Gas Chromatography Performance."

P. B. Radha, "Overview and Status of Direct-Drive Inertial Confinement Fusion in the United States," presented at the 27th IAEA Fusion Energy Conference (FEC 2018), Ahmedabad, India, 22–27 October 2018.

The following presentations were made at the NIF VISAR Workshop, Livermore, CA, 23–24 October 2018:

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, "Improvements to the VISAR and Streaked Optical Pyrometer at the Omega Laser Facility."

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, "First Direct-Drive Measurements of Laser-Imprint-Induced Shock-Velocity Nonuniformities on OMEGA."

The following presentations were made at the U.S.-Japan Workshop on Theory and Simulations of High-Field and High-Energy-Density Physics, Portland OR, 3–4 November 2018:

A. Howard, D. Turnbull, A. Davies, D. H. Froula, and J. P. Palastro, "Photon Acceleration in the Ionization Front of a Flying Focus."

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. Golovkin, and D. D. Meyerhofer, "High-Resolving-Power, Streaked X-Ray Spectroscopy of Picosecond-Scale Relativistic Laser–Matter Interactions on the OMEGA EP Laser System."

J. L. Peebles, J. R. Davies, D. H. Barnak, A. B. Sefkow, P. A. Gourdain, R. Betti, and A. Arefiev, "Characterizing Magnetic and Electric Fields from Laser-Driven Coils Using Axial Proton Probing."

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, "Ion-Velocity Structure in Strong Collisional Plasma Shocks."

The following presentations were made at the 60th Annual APS Division of Plasma Physics, Portland OR, 5–9 November 2018:

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, "Modeling of Target Offset in Warm Implosions 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, "Using the 10 to 20 keV X-Ray Spectrum to Infer an Electron Temperature (T_e) as an Implosion Diagnostic on OMEGA."

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 "Interpreting EXAFS Spectra: Toward Ramp-Compression Studies of Iron Oxide (FeO)."

A. R. Christopherson, R. Betti, S. Miller, V. Gopalaswamy, D. Cao, D. Keller, and J. D. Lindl, "Thermonuclear Ignition and the Onset of Propagating Burn in 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, "Matter at Extreme Energy Density: Exotic Solids to Inertial Fusion" (invited).

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, "Cryogenic Target Performance and Fuel-Ablator Perturbation Growth."

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, "Equation-of-State Measurements of Precompressed CO_2."

R. S. Craxton, Y. Yang, E. M. Garcia, P. W. McKenty, M. J. Schmitt, and K. Molvig, "*Revolver* Designs for the National Ignition Facility Using Current and Optimized Phase Plates."

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, "Ultrafast Thomson Scattering and the Effects of Collisions on the Electron Plasma Wave Feature."

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, "Laser-Driven Magnetized Liner Inertial Fusion on OMEGA" (invited).

Y. H. Ding, S. X. Hu, A. J. White, O. Certik, and L. A. Collins, "*Ab Initio* Studies on Stopping Power of Warm Dense Matter with Time-Dependent Orbital-Free Density Functional Theory."

D. H. Edgell, R. K. Follett, J. Katz, J. P. Palastro, D. Turnbull, and D. H. Froula, "Density Profile Measurements on OMEGA Using the CBET Beamlets Diagnostic."

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,

"Inferring Shell Nonuniformity in OMEGA Implosions by Self-Emission Radiography."

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, "Suppressing Parametric Instabilities with Laser Frequency Detuning and Bandwidth" (invited).

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, "Evaluating the Residual Kinetic Energy in Direct-Drive Cryogenic Implosions on OMEGA."

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, "Ionization Waves of Arbitrary Velocity."

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, "Flying Focus: Spatial and Temporal Control of Intensity for Laser Based Application" (invited).

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, "Improvements to the VISAR and Streaked Optical Pyrometer at the Omega Laser Facility."

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, "DT Yield and Ion Temperature Measurement with a Cherenkov Neutron Time-of-Flight Detector on OMEGA."

V. N. Goncharov, "Perturbation Evolution at Early Stages of Inertial Confinement Fusion Implosions."

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, "X-Ray Diffraction of Ramp-Compressed Potassium."

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, "Optimization of Direct-Drive Inertial Fusion Implosions Through Predictive Statistical Modeling" (invited).

D. Haberberger, A. Shvydky, J. P. Knauer, S. X. Hu, V. N. Goncharov, S. T. Ivancic, and D. H. Froula, "Density Measurements of the Inner Shell Release."

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C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, "Tritium Retention in Hexavalent Chromate-Conversion–Coated Aluminum Alloy."

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, "Pulsed-Power and Laser-Driven Magnetized Liner Inertial Fusion."

M. Sharpe, C. Fagan, and W. T. Shmayda, "Distribution of Tritium in the Near Surface of 316 Stainless-Steel."

W. T. Shmayda, C. R. Shmayda, and J. Torres, "Tritium Extraction from Water."

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

D. H. Froula, 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, J. D. Zuegel, V. N. Goncharov, E. M. Campbell, P. Michel, D. Strozzi, M. Glensky, K. Peterson, J. W. Bates, A. Schmitt, J. L. Weaver, and J. F. Myatt, "Innovative Science and Broadband Lasers at LLE—A Path to an Expanded ICF Design Space," presented at Fusion Power Associates 39th Annual Meeting and Symposium, Washington, DC, 4–5 December 2018.

The following presentations were made at the Joint U.S./Israel Workshop on High-Energy-Density Physics, Tel Aviv, Israel, 10–12 December 2018:

R. Betti, "Fusion Research at LLE: Direct Drive and Magnetized Targets."

T. R. Boehly, "High-Energy-Density Physics Research at LLE."

E. M. Campbell, "NIF—An Unexpected Journey, Lessons Learned to Secure "Projects of Scale" and the Future of ICF Research."

T. C. Sangster, "Overview of the Laboratory for Laser Energetics."

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