
Publications and Conference Presentations

Publications

- R. Adam, M. Currie, C. Williams, R. Sobolewski, O. Harnack, and M. Darula, "Direct Observation of Subpicosecond Single-Flux-Quantum Generation in Pulse-Driven Y-Ba-Cu-O Josephson Junctions," *Appl. Phys. Lett.* **76**, 469 (2000).
- E. L. Alfonso, I. Anteby, and D. R. Harding, "Temperature Profiles and $\ell = 1$ Nonuniformity Within Cryogenic ICF Targets," *Fusion Technol.* **38**, 149 (2000).
- 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, "Details of the Polishing Spot in Magnetorheological Finishing (MRF)," in *Optical Manufacturing and Testing III*, edited by H. Stahl (SPIE, Bellingham, WA, 1999), Vol. 3782, pp. 92–100.
- A. Babushkin, M. J. Guardalben, R. S. Craxton, P. Adamson, H. Ammenheuser, R. L. Keck, and W. Seka, "Characterization of Frequency-Conversion Crystals for the Implementation of a 1-THz Bandwidth on the OMEGA Laser," in *Conference on Lasers and Electro-Optics*, 2000 Technical Digest Series (Optical Society of America, Washington, DC, 2000), pp. 290–291.
- R. Betti and J. P. Freidberg, "Radial Discontinuities in Tokamak Magnetohydrodynamic Equilibria with Poloidal Flow," *Phys. Plasmas* **7**, 2439 (2000).
- T. R. Boehly, D. D. Meyerhofer, Y. Fisher, W. Seka, and D. K. Bradley, "Measurements of the Optical Contrast on OMEGA: a 60-Beam, 30-kJ UV Fusion Laser," in *Conference on Lasers and Electro-Optics*, 2000 Technical Digest Series (Optical Society of America, Washington, DC, 2000), p. 539.
- J. L. Chaloupka and D. D. Meyerhofer, "Characterization of a Tunable, Single-Beam Ponderomotive-Optical Trap," *J. Opt. Soc. Am. B* **17**, 713 (2000).
- J. L. Chaloupka and D. D. Meyerhofer, "Observation of Electron Trapping in an Intense Laser Beam," *Phys. Rev. Lett.* **83**, 4538 (1999).
- S. H. Chen, R. J. Jin, D. Katsis, J. C. Mastrangelo, S. Papernov, and A. W. Schmid, "Photoreaction Broadening of Selective Reflection and Polarization Band of Glassy Chiral-Nematic Films," *Liq. Cryst.* **27**, 201 (2000).
- H. P. Chen, D. Katsis, J. C. Mastrangelo, S. H. Chen, S. D. Jacobs, and P. J. Hood, "Glassy Liquid-Crystal Films with Opposite Chirality as High-Performance Optical Notch Filters and Reflectors," *Adv. Mat.* **12**, 1283 (2000).
- H. P. Chen, D. Katsis, J. C. Mastrangelo, K. L. Marshall, S. H. Chen, and T. H. Mourey, "Thermotropic Chiral-Nematic Poly(*p*-phenylene)s as a Paradigm of Helically Stacked π -Conjugated Systems," *Chem. Mater.* **12**, 2275 (2000).
- S. H. Chen, J. C. Mastrangelo, and R. J. Jin, "Glassy Liquid-Crystal Films as Broadband Polarizers and Reflectors via Spatially Modulated Photoreaction," *Adv. Mater.* **11**, 1183 (1999).
- T. J. B. Collins, H. L. Helfer, and H. M. VanHorn, "Oscillations of Accretion Disks and Boundary Layers in Cataclysmic Variables: I. Unperturbed, Steady-Flow Models," *Astrophys. J.* **534**, 934 (2000).
- T. J. B. Collins, H. L. Helfer, and H. M. VanHorn, "Oscillations of Accretion Disks and Boundary Layers in Cataclysmic Variables: II. A Local, Linear Stability Analysis of Accretion Disk Boundary Layers," *Astrophys. J.* **534**, 944 (2000).
- F. Dahmani, J. C. Lambropoulos, A. W. Schmid, S. Papernov, and S. J. Burns, "Crack Arrest and Stress Dependence of Laser-Induced Surface Damage in Fused-Silica and Borosilicate Glass," *Appl. Opt.* **38**, 6892 (1999).

- F. Dahmani, A. W. Schmid, J. C. Lambropoulos, S. J. Burns, and S. Papernov, "Lifetime Prediction of Laser-Pre-cracked Fused Silica Subjected to Subsequent Cyclic Laser Pulses," *J. Mater. Res.* **15**, 1182 (2000).
- F. Y. Fan, J. C. Mastrangelo, D. Katsis, and S. H. Chen, "Novel Glass-Forming Liquid Crystals: V. Nematic and Chiral-Nematic Systems with an Elevated Glass Transition Temperature," *Liq. Cryst.* **27**, 1239 (2000).
- 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, "A Model of Laser Imprinting," *Phys. Plasmas* **7**, 2062 (2000) (invited).
- V. N. Goncharov, S. Skupsky, P. W. McKenty, J. A. Delettrez, R. P. J. Town, and C. Cherfiles-Cl  rouin, "Stability Analysis of Directly Driven NIF Capsules," in *Inertial Fusion Sciences and Applications (IFSA 99): State of the Art 1999*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 214–219.
- S. R. Gorodkin, W. I. Kordonski, E. V. Medvedeva, Z. A. Novikova, A. B. Shorey, and S. D. Jacobs, "A Method and Device for Measurement of a Sedimentation Constant of Magnetorheological Fluids," *Rev. Sci. Instrum.* **71**, 2476 (2000).
- M. J. Guardalben and N. Jain, "Phase-Shift Error as a Result of Molecular Alignment Distortions in a Liquid-Crystal Point-Diffraction Interferometer," *Opt. Lett.* **25**, 1171 (2000).
- K. S. Il'in, M. Lindgren, M. Currie, A. D. Semenov, G. N. Gol'tsman, R. Sobolewski, S. I. Cherednichenko, and E. M. Gershenzon, "Picosecond Hot-Electron Energy Relaxation in NbN Superconducting Photodetectors," *Appl. Phys. Lett.* **76**, 2752 (2000).
- S. D. Jacobs, "Take-Home Demo Excites Young People About Careers in Technology," *Opt. Photonics News*, 16 (July 2000).
- S. D. Jacobs, S. A. Arrasmith, I. A. Kozhinova, L. L. Gregg, A. B. Shorey, H. J. Romanofsky, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, "Magnetorheological Finishing (MRF): Computer-Controlled Optics Manufacturing," *The American Ceramic Society Bulletin*, December 1999, pp. 42–48.
- S. D. Jacobs and A. B. Shorey, "Magnetorheological Finishing: New Fluids for New Materials," in *Optical Fabrication and Testing*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 142–144 (invited).
- D. Katsis, P. H. M. Chen, J. C. Mastrangelo, S. H. Chen, and T. N. Blanton, "Vitrified Chiral-Nematic Liquid Crystalline Films for Selective Reflection and Circular Polarization," *Chem. Mater.* **11**, 1590 (1999).
- J. P. Knauer, R. Betti, D. K. Bradley, T. R. Boehly, T. J. B. Collins, V. N. Goncharov, P. W. McKenty, D. D. Meyerhofer, V. A. Smalyuk, C. P. Verdon, S. G. Glendinning, D. H. Kalantar, and R. G. Watt, "Single-Mode Rayleigh–Taylor Growth-Rate Measurements on the OMEGA Laser System," *Phys. Plasmas* **7**, 338 (2000).
- R. S. Knox, "Physical Aspects of the Greenhouse Effect and Global Warming," *Am. J. Phys.* **67**, 1227 (1999).
- I. Kozhinova, S. Jacobs, S. Arrasmith, and L. Gregg, "Corrosion in Aqueous Cerium Oxide Magnetorheological Fluids," in *Optical Fabrication and Testing*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 151–153.
- C. K. Li, D. G. Hicks, F. H. S  guin, J. A. Frenje, R. D. Petrasso, J. M. Soures, P. B. Radha, V. Yu. Glebov, C. Stoeckl, J. P. Knauer, R. Kremens, F. J. Marshall, D. D. Meyerhofer, S. Skupsky, S. Roberts, C. Sorce, T. C. Sangster, T. W. Phillips, M. D. Cable, and R. J. Leeper, "D-³He Proton Spectra for Diagnosing Shell ρR and Fuel T_i of Imploded Capsules at OMEGA," *Phys. Plasmas* **7**, 2578 (2000).
- 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. S  guin, D. G. Hicks, and R. D. Petrasso, "Direct-Drive, High-Convergence-Ratio Implosion Studies on the OMEGA Laser System," *Phys. Plasmas* **7**, 2108 (2000).
- F. J. Marshall, J. A. Delettrez, V. Yu. Glebov, R. P. J. Town, B. Yaakobi, R. L. Kremens, and M. Cable, "Direct-Drive, Hollow-Shell Implosion Studies on the 60-Beam, UV OMEGA Laser System," *Phys. Plasma* **7**, 1006 (2000).

- 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, "OMEGA Experiments and Preparation for Moderate-Gain Direct-Drive Experiments on the NIF," in *Inertial Fusion Sciences and Applications (IFSA 99): State of the Art 1999*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 43–53.
- 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, "Recent Advances in Direct-Drive ICF Target Physics at the Laboratory for Laser Energetics," in *Fusion Energy 1998* (IAEA, Vienna, 1999), Vol. I, pp. 167–176.
- P. W. McKenty, M. D. Wittman, and V. N. Goncharov, "Characterization of Thick Cryogenic Fuel Layers Using Convergent-Beam Interferometry: a Numerical Investigation," *J. Appl. Phys.* **88**, 2928 (2000).
- C. J. McKinstrie and E. A. Startsev, "Forward and Backward Stimulated Brillouin Scattering of Crossed Laser Beams," *Phys. Rev. E* **60**, 5978 (1999).
- A. V. Okishev, "The Oldest Higher-Educational Optical Institution in Russia Turns 100," *Optics & Photonics News*, March 2000, 17.
- 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, "A Unique High-Bandwidth, Multimode UV Optical Fiber: Manufacturing, Testing, and Laser-Fusion Applications," in *Conference on Lasers and Electro-Optics*, 2000 Technical Digest Series (Optical Society of America, Washington, DC, 2000), pp. 292–293.
- A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, "All-Solid-State Optical Pulse Shaper for the OMEGA Laser Fusion Facility," in *Advanced Solid State Lasers*, edited by H. Injeyan, U. Keller, and C. Marshall, OSA Trends in Optics and Photonics, Vol. 34 (Optical Society of America, Washington, DC, 2000), pp. 30–32.
- P. B. Radha, S. Skupsky, R. D. Petrasso, and J. M. Soures, "A Novel Charged-Particle Diagnostic for Compression in ICF Targets," *Phys. Plasmas* **7**, 1531 (2000).
- J. D. Schnittman and R. S. Craxton, "Three-Dimensional Modeling of Capsule Implosions in OMEGA Tetrahedral Hohlräume," *Phys. Plasmas* **7**, 2964 (2000).
- A. B. Shorey, L. L. Gregg, H. J. Romanofsky, S. R. Arrasmith, I. Kozhinova, J. Jubregsen, and S. D. Jacobs, "Study of Material Removal During Magnetorheological Finishing (MRF)," in *Optical Manufacturing and Testing III*, edited by H. Stahl (SPIE, Bellingham, WA, 1999), Vol. 3782, pp. 101–111.
- A. B. Shorey and S. D. Jacobs, "Nanohardness of Abrasive Particles Used in Magnetorheological Finishing (MRF)," in *Optical Fabrication and Testing*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 145–147.
- A. B. Shorey, W. I. Kordonski, S. R. Gorodkin, S. D. Jacobs, R. F. Gans, K. M. Kwong, and C. H. Farny, "Design and Testing of a New Magnetorheometer," *Rev. Sci. Instrum.* **70**, 4200 (1999).
- M. D. Skeldon, "A High-Bandwidth Electrical Waveform Generator Based on an Aperture-Coupled Stripline," *Rev. Sci. Instrum.* **71**, 3559 (2000).
- R. Sobolewski, "Time-Resolved Nonequilibrium Phenomena in High-Temperature Superconductors," in *Superconductivity, Magneto-Resistive Materials, and Strongly Correlated Quantum Systems*, Recountres du Vietnam, edited by N. Van Hieu, T. Thanh Van, and G. Xiao, Hanoi (Vietnam National University Press, Hanoi, 2000), pp. 55–66 (invited).
- F.-Y. Tsai, E. L. Alfonso, S. H. Chen, and D. R. Harding, "Mechanical Properties and Gas Permeability of Polyimide Shells Fabricated by the Vapor Deposition Method," *Fusion Technol.* **38**, 83 (2000).

D. L. Tubbs, C. W. Barnes, J. B. Beck, N. M. Hoffman, J. A. Oertel, R. G. Watt, T. Boehly, D. Bradley, P. Jaanimagi, and J. Knauer, "Cylindrical Implosion Experiments Using Laser Direct Drive," *Phys. Plasmas* **6**, 2095 (1999).

W. S. Varnum, N. D. Delamater, S. C. Evans, P. L. Gobby, J. E. Moore, J. M. Wallace, R. G. Watt, J. D. Colvin, R. Turner, V. Glebov, J. Soures, and C. Stoeckl, "Progress Toward Ignition with Noncryogenic Double-Shell Capsules," *Phys. Rev. Lett.* **84**, 5152 (2000).

B. Yaakobi, V. A. Smalyuk, J. A. Delettrez, F. J. Marshall, D. D. Meyerhofer, and W. Seka, "Measurement of Areal Density Modulation of Laser-Imploded Shells Through K-Edge Imaging," *Phys. Plasmas* **7**, 3727 (2000).

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, "Spherical Implosion Experiments on OMEGA: Measurements of the Cold, Compressed Shell," in *Inertial Fusion Sciences and Applications (IFSA 99): State of the Art 1999*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 115–121.

B. Yaakobi, C. Stoeckl, T. Boehly, D. D. Meyerhofer, and W. Seka, "Measurement of Preheat Due to Fast Electrons in Laser Implosions," *Phys. Plasmas* **7**, 3714 (2000).

J. D. Zuegel, D. Jacobs-Perkins, J. A. Marozas, R. G. Roides, W. Bittle, E. M. R. Michaels, S. Regan, R. S. Craxton, J. H. Kelly, T. J. Kessler, W. Seka, and S. Skupsky, "Broadband Beam Smoothing on OMEGA with Two-Dimensional Smoothing by Spectral Dispersion," in *Inertial Fusion Sciences and Applications (IFSA 99): State of the Art 1999*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 664–668.

Conference Presentations

J. L. Chaloupka and D. D. Meyerhofer, "Observation of Electron Trapping in an Intense Laser Beam," International Conference on Multiphoton Processes, Monterey, CA, 3–8 October 1999.

A. V. Okishev, M. D. Skeldon, J. H. Kelly, A. Babushkin, J. D. Zuegel, R. G. Roides, S. F. B. Morse, and W. Seka, "Front-End Laser System for the OMEGA Laser Fusion Facility," Optics '99, St. Petersburg, Russia, 19–21 October 1999.

The following presentations were made at the 13th Annual Target Fabrication Meeting, Catalina Island, CA, 8–11 November 1999:

E. L. Alfonso, I. Anteby, and D. R. Harding, "Temperature and Ice-Thickness Profiles Within Cryogenic ICF Targets."

M. Bonino, L. Elasky, R. Q. Gram, S. Noyes, and D. R. Harding, "Stress-Strain Performance of Spider Silk."

R. Q. Gram, J. Hobler, L. Lund, and D. R. Harding, "Initial Performance of the High-Pressure DT Filling Portion of the Cryogenic Target Handling System."

P. W. McKenty and M. D. Wittman, "Characterization of Thick Cryogenic Layers Using an Interferometric Imaging System and Legendre Mode Decomposition."

F.-Y. Tsai, E. L. Alfonso, S. H. Chen, and D. R. Harding, "Mechanical Properties and Gas Permeability of Polyimide Shells Fabricated by the Vapor Deposition Method."

The following presentations were made at the 41st Annual Meeting of the American Physical Society Division of Plasma Physics, Seattle, WA, 15–19 November 1999:

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, "Measurements of Laser Imprinting on the OMEGA Laser System."

T. J. B. Collins and S. Skupsky, "The Effects of Pulse Shaping on Imprint."

R. S. Craxton and S. Skupsky, "Pulse Shapes and Beam Smoothing for OMEGA and the NIF."

- J. A. Delettrez, V. Yu. Glebov, F. J. Marshall, C. Stoeckl, B. Yaakobi, and D. D. Meyerhofer, "Effect of Beam Smoothing and Pulse Shape on the Implosion of DD-Filled CH Shell Targets on OMEGA."
- R. Epstein, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, "One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged-Particle Spectra from Laser-Driven Implosion Experiments."
- 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, "Evidence for Fuel-Pusher Mixing in OMEGA Direct-Drive Implosions by Neutron Diagnostic."
- V. N. Goncharov, S. Skupsky, P. W. McKenty, R. P. J. Town, T. R. Boehly, D. D. Meyerhofer, and O. V. Gotchev, "A Model of Laser Imprinting" (invited).
- O. V. Gotchev, J. P. Knauer, D. D. Meyerhofer, and V. A. Smalyuk, "Characterization of an X-Ray Radiographic System for Measuring the Evolution of Broadband Imprint in Laser-Driven Planar Targets."
- 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, "The OMEGA Cryogenic Target-Handling System."
- 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, "Measurement of Accelerated Ions from OMEGA Targets."
- P. A. Jaanimagi, R. Boni, and R. L. Keck, "Neutron-Induced Background in CCD Detectors."
- A. V. Kanaev and C. J. McKinstrie, "Numerical Two-Dimensional Studies of Near-Forward Stimulated Brillouin Scattering of a Laser Beam in Plasmas."
- 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, "DRACO—A New Multidimensional Hydrocode."
- J. P. Knauer, R. Betti, T. R. Boehly, V. N. Goncharov, D. D. Meyerhofer, and R. P. J. Town, "Feed-Out of Rear-Surface Perturbations to the Ablation Interface and Subsequent Growth."
- M. V. Kozlov and C. J. McKinstrie, "Numerical Simulation of Sound-Wave Generation in Two-Ion Plasma."
- 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, " T - ^3He Deuterons as a Diagnostic for Capsule Implosions on OMEGA."
- V. Lobatchev and R. Betti, "Numerical Study of Feed-Out of Short-Wavelength Rear-Surface Perturbations in Planar Targets."
- F. J. Marshall, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, P. W. McKenty, D. D. Meyerhofer, R. D. Petrasso, P. B. Radha, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, D. G. Hicks, C. K. Li, and F. H. Séguin, "Direct-Drive, High-Convergence-Ratio Implosion Studies 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, "Performance of Spherical Target Implosions on the OMEGA Laser System."
- P. B. Radha, S. Cremer, J. A. Delettrez, R. Epstein, R. D. Petrasso, S. Skupsky, and J. M. Soures, "Charged-Particle Spectra Using Particle Tracking on a Two-Dimensional Grid."
- S. P. Regan, J. A. Delettrez, D. K. Bradley, V. Yu. Glebov, D. D. Meyerhofer, and C. Stoeckl, "Burnthrough Experiments on OMEGA to Study Effects of Laser Irradiation Uniformity and Shinethrough Layers on Spherical Target Performance."
- 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, "Diagnostic Use of Secondary D- ^3He Proton Spectra for DD OMEGA Targets."
- W. Seka, D. D. Meyerhofer, S. P. Regan, B. Yaakobi, R. E. Bahr, R. S. Craxton, R. W. Short, and A. Simon, "Interaction Experiments Under Direct-Drive NIF Conditions."

R. W. Short, "Stability of Self-Focused Filaments in Laser-Produced Plasmas."

A. Simon, "Relativistic Electron Beams, Forward Thomson Scattering, and Raman Scattering."

V. A. Smalyuk, B. Yaakobi, V. N. Goncharov, J. A. Delettrez, F. J. Marshall, and D. D. Meyerhofer, "Imaging of Compressed Pure-CH Shells and CH Shells with Titanium-Doped Layers on OMEGA."

E. A. Startsev and C. J. McKinstrie, "Particle-in-Cell Simulations of Particle Acceleration."

C. Stoeckl, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, V. A. Smalyuk, S. Sublett, and J. D. Zuegel, "Measurements of Hard X-Ray Emission from Laser-Plasma Instabilities on OMEGA."

R. P. J. Town, J. A. Delettrez, R. Epstein, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, "OMEGA Cryogenic Target Design."

J. D. Schnittman and R. S. Craxton, "Three-Dimensional Modeling of Capsule Implosions in OMEGA Tetrahedral Hohlräume," Israel Plasma Science Technology Association, Beer Sheva, Israel, 9 February 2000.

A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, "All-Solid-State Optical Pulse Shaper for the OMEGA Laser Fusion Facility," Advanced Solid-State Lasers 15th Topical Meeting, Davos, Switzerland, 13–16 February 2000.

A. B. Shorey, K. M. Kwong, and S. D. Jacobs, "Revealing Hardness Variations in Optical Polishing Abrasives," MTS Nano Instrument Users' Meeting, Albany, NY, 22 February 2000.

The following presentations were made at the 12th APS Topical Conference on Atomic Processes in Plasmas, Reno, NV, 19–23 March 2000:

S. P. Regan, J. A. Delettrez, B. Yaakobi, D. K. Bradley, R. E. Bahr, M. Millecchia, D. D. Meyerhofer, and W. Seka, "Spectroscopic Analysis of Electron Temperature in Laser-Driven Burnthrough Experiments."

V. A. Smalyuk, B. Yaakobi, F. J. Marshall, and D. D. Meyerhofer, "X-Ray Spectroscopic Measurements of Areal Density and Modulations in Areal Density of Cold Compressed Shells in Implosion Experiments on OMEGA."

J. P. Knauer, T. J. B. Collins, A. Frank, and E. Blackman, "Generation of Collimated Flows by Intense Irradiation with Applications to Astrophysical Phenomena," 3rd International Conference on Laboratory Astrophysics with Intense Lasers, Rice University, Houston, TX, 30 March–1 April 2000.

R. Adam, M. Darula, and R. Sobolewski, "Subpicosecond Dynamics of the Switching Process in Y-Ba-Cu-O Josephson Junctions," SPIE's 14th Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls, Orlando, FL, 24–28 April 2000.

The following presentations were made at CLEO/QELS 2000, San Francisco, CA, 7–12 May 2000:

A. Babushkin, M. J. Guardalben, R. S. Craxton, P. Adamson, H. Ammenheuser, R. L. Keck, and W. Seka, "Characterization of Frequency-Conversion Crystals for the Implementation of a 1-THz Bandwidth on the OMEGA Laser."

T. R. Boehly, D. D. Meyerhofer, Y. Fisher, W. Seka, and D. K. Bradley, "Measurements of the Optical Contrast on OMEGA: a 60-Beam, 30-kJ UV Fusion Laser."

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, "A Unique High-Bandwidth, Multimode UV Optical Fiber: Manufacturing, Testing, and Laser-Fusion Applications."

The following presentations were made at the 30th Annual Anomalous Absorption Conference, Ocean City, MD, 21–26 May 2000:

R. Betti, J. P. Knauer, V. Lobatchev, and M. Umanski, “Hydrodynamic Instabilities from the Beginning to the End.”

R. S. Craxton, J. P. Knauer, and R. P. J. Town, “Two-Dimensional Simulations of Cryogenic Deuterium Foil Acceleration for NIF Instability Experiments.”

J. A. Delettrez, V. Smalyuk, B. Yaakobi, and D. D. Meyerhofer, “Results of Two-Dimensional Simulations of Implosions of DD-Filled CH Shell Targets on the OMEGA Laser.”

R. Epstein, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, P. W. McKenty, P. B. Radha, and S. Skupsky, “One-Dimensional Simulation of the Effects of Unstable Mix on Neutron and Charged Particle Spectra from Laser-Driven Implosion Experiments.”

A. V. Kanaev and C. J. McKinstrie, “Numerical Simulations of SSD-Smoothed Laser Beam Filamentation and Forward SBS in Plasmas.”

V. Lobatchev, R. Betti, and M. Umanski, “Numerical Study of Deceleration-Phase Rayleigh–Taylor Instability.”

P. B. Radha, T. J. B. Collins, J. A. Delettrez, D. Keller, P. W. McKenty, and R. P. J. Town, “*DRACO*—A Multidimensional Hydrocode for ICF.”

S. P. Regan, J. A. Delettrez, B. Yaakobi, R. Epstein, D. K. Bradley, D. D. Meyerhofer, and W. Seka, “Laser-Driven Burnthrough Experiments on OMEGA.”

R. W. Short, “The Effects of Beam Intensity Structure on Two-Plasmon Decay in Direct-Drive Fusion Targets.”

C. Stoeckl, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, B. Yaakobi, and J. D. Zuegel, “Optical and X-Ray Signatures from the Two-Plasmon-Decay Instability on OMEGA.”

T. R. Boehly, B. Yaakobi, D. Hoarty, J. P. Knauer, D. D. Meyerhofer, R. P. J. Town, R. E. Bahr, and M. Millicchia, “Measurements of Shock Heating Using Al Absorption Spectroscopy in Planar Targets,” International Workshop on Warm Dense Matter, Vancouver, B.C., Canada, 29–31 May 2000.

J. P. Knauer, T. J. B. Collins, A. Frank, and E. Blackman, “Generation of Collimated Flows by Intense Laser Irradiation with Applications to Astrophysical Phenomena,” 196th Meeting of the American Astronomical Society, Rochester, NY, 4–8 June 2000.

The following presentations were made at the 26th European Conference on Laser Interaction with Matter, Prague, Czech Republic, 12–16 June 2000:

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, D. G. Hicks, and C. K. Li, “Recent Progress in Direct-Drive ICF Research at the Laboratory for Laser Energetics.”

B. Yaakobi, C. Stoeckl, T. R. Boehly, D. D. Meyerhofer, and W. Seka, “Measurement of Preheat due to Fast Electrons in Laser Implosions.”

The following presentations were made at Optical Fabrication and Testing, Quebec City, Canada, 18–22 June 2000:

S. D. Jacobs and A. B. Shorey, “Magnetorheological Finishing: New Fluids for New Materials.”

I. A. Kozhinova, S. D. Jacobs, S. R. Arrasmith, and L. L. Gregg, “Corrosion in Aqueous Cerium Oxide Magnetorheological Fluids.”

A. B. Shorey and S. D. Jacobs, “Nanohardness of Abrasive Particles Used in Magnetorheological Finishing (MRF).”

The following presentations were made at the 13th Topical Conference on High-Temperature Plasma Diagnostics, Tucson, AZ, 18–22 June 2000:

T. R. Boehly, B. Yaakobi, D. Hoarty, J. P. Knauer, D. D. Meyerhofer, R. P. J. Town, R. E. Bahr, and M. Millecchia, “Measurements of Shock Heating Using Al Absorption Spectroscopy in Planar Targets.”

J. A. Frenje, D. G. Hicks, C. K. Li, F. H. Séguin, R. D. Petrasso, K. Fletcher, H. Olliver, S. Padalino, S. Thompson, J. M. Soures, S. Roberts, C. Sorce, T. C. Sangster, and T. W. Phillips, “CR-39 Tract Detector Response to Charged Particles and Neutrons.”

V. Yu. Glebov, D. D. Meyerhofer, C. Stoeckl, and J. D. Zuegel, “Secondary Neutron Yield Measurements by Current Mode Detectors.”

P. A. Jaanimagi, R. Boni, and R. L. Keck, “Neutron-Induced Background in CCD Detectors.”

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, “Measuring Fusion Yields, Areal Densities, and Ion Temperatures of Imploded Capsules at OMEGA.”

F. J. Marshall, T. A. Ohki, D. McInnis, Z. Ninkov, and J. Carbone, “Imaging of Laser–Plasma X-Ray Emission with Charge Injection Devices (CID).”

F. H. Séguin, C. K. Li, D. G. Hicks, J. A. Frenje, R. D. Petrasso, J. M. Soures, V. Yu. Glebov, P. B. Radha, D. D. Meyerhofer, S. Roberts, C. Sorce, T. C. Sangster, M. D. Cable, S. Padalino, and K. Fletcher, “Diagnostic Use of Secondary Proton Spectra for D-Filled ICF Targets.”

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, “Fourier-Space Image Processing for Spherical Experiments on OMEGA.”

C. Stoeckl, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, B. Yaakobi, R. P. J. Town, and J. D. Zuegel, “Hard X-Ray Detectors for OMEGA and NIF.”

The following presentations were made at Laser Optics 2000, St. Petersburg, Russia, 26–30 June 2000:

A. V. Okishev, R. Boni, M. Millecchia, B. Kubera, P. A. Jaanimagi, W. R. Donaldson, R. L. Keck, K. V. Dukelsky, M. A. Eronyan, V. S. Shevandin, G. A. Ermolaeva, and G. Nikolaev, “A Unique High-Bandwidth, UV Fiber Delivery System for the OMEGA Diagnostics Applications.”

A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, “A New High-Bandwidth, All-Solid-State Pulse-Shaping System for the OMEGA Laser Facility.”

R. Sobolewski, D. P. Butler, and Z. Celik-Butler, “Cooled and Uncooled Infrared Detectors Based on Yttrium Barium Copper Oxide,” SPIE Baltic States Conference on Advanced Optical Materials (ADOM-2), Vilnius, Lithuania, 16–19 August 2000 (invited).

The following presentations were made at the Applied Superconductivity Conference (ASC), Virginia Beach, VA, 17–22 September 2000:

R. Adam, C. Williams, R. Sobolewski, J. Scherbel, M. Darula, and M. Siegel, “Experiments and Simulations of Subpicosecond SFQ Pulse Propagation in Y-Ba-Cu-O Josephson Transmission Lines.”

G. Gol’tsman, O. Okunev, G. Chulkova, A. Lipatov, A. Dzardanov, K. Smirnov, A. Semenov, B. Voronov, C. Williams, and R. Sobolewski, “Fabrication and Properties of an Ultrafast NbN Hot-Electron Single-Photon Detector.”

R. Sobolewski and J.-R. Park, “Magneto-Optical Modulator for Superconducting Digital Output Interface.”

C. Williams, R. Adam, Y. Xu, R. Sobolewski, J. Scherbel, O. Harnack, M. Darula, and F. A. Hegmann, “Ultrafast Y-Ba-Cu-O Photodetector Based on the Nonequilibrium Kinetic Inductive Effect.”