
Publications and Conference Presentations

Publications

D. R. Harding and W. T. Shmayda, "Stress- and Radiation-Induced Swelling in Plastic Capsules," *Fusion Sci. Technol.* **63**, 125 (2013).

D. R. Harding, M. D. Wittman, and D. H. Edgell, "Considerations and Requirements for Providing Cryogenic Targets for Direct-Drive Inertial Fusion Implosions at the National Ignition Facility," *Fusion Sci. Technol.* **63**, 95 (2013).

H. P. Howard, A. F. Aiello, J. G. Dressler, N. R. Edwards, T. J. Kessler, A. A. Kozlov, I. R. T. Manwaring, K. L. Marshall, J. B. Oliver, S. Papernov, A. L. Rigatti, A. N. Roux, A. W. Schmid, N. P. Slaney, C. C. Smith, B. N. Taylor, and S. D. Jacobs, "Improving the Performance of High-Laser-Damage-Threshold, Multilayer Dielectric Pulse-Compression Gratings Through Low-Temperature Chemical Cleaning," *Appl. Opt.* **52**, 1682 (2013).

S. X. Hu, D. T. Michel, D. H. Edgell, D. H. Froula, R. K. Follett, V. N. Goncharov, J. F. Myatt, S. Skupsky, and B. Yaakobi, "Hydrodynamic Simulations of Long-Scale-Length Two-Plasma-Decay Experiments at the Omega Laser Facility," *Phys. Plasmas* **20**, 032704 (2013).

M. Lafon, X. Ribeyre, and G. Schurtz, "Optimal Conditions for Shock Ignition of Scaled Cryogenic Deuterium–Tritium Targets," *Phys. Plasmas* **20**, 022708 (2013).

K. Mehrotra, H. P. Howard, S. D. Jacobs, and J. C. Lambropoulos, "Nanoindentation Probing of High-Aspect Ratio Pillar Structures on Optical Multilayer Dielectric Diffraction Gratings," in *Local Probing Techniques and In-Situ Measurements in Materials Science*, edited by N. Balke, H. Wang, J. Rijssenbeek, and T. Glatzel, Mater. Res. Soc. Symp. Proc. Vol. 1474 (Materials Research Society, Pittsburgh, PA, 2012).

W. T. Shmayda, D. R. Harding, V. Versteeg, C. Kingsley, M. Hallgren, and S. J. Loucks, "Micron-Scaled Defects on Cryogenic Targets: An Assessment of Condensate Sources," *Fusion Sci. Technol.* **63**, 87 (2013).

Q. Wang, J. U. Wallace, T. Y.-H. Lee, J. J. Ou, Y.-T. Tsai, Y.-H. Huang, C.-C. Wu, L. J. Rothberg, and S. H. Chen, "Evaluation of Propylene-, *Meta*-, and *Para*-Linked Triazine and *Tert*-Butyltriphenylamine as Bipolar Hosts for Phosphorescent Organic Light-Emitting Diodes," *J. Mater. Chem. C* **1**, 2224 (2013).

Forthcoming Publications

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, "A Polar-Drive Shock-Ignition Design for the National Ignition Facility," to be published in *Physics of Plasmas*.

C. Dorrer, "Analysis of Pulse Replicators for High-Bandwidth, High-Dynamic-Range, Single-Shot Optical Characterization," to be published in the *Journal of Lightwave Technology*.

C. Dorrer, "Analysis of the Chromaticity of Near-Field Binary Beam Shapers," to be published in *Applied Optics*.

L. Gao, P. M. Nilson, I. V. Igumenshchev, G. Fiksel, R. Yan, J. R. Davies, D. Martinez, V. A. Smalyuk, M. G. Haines, E. G. Blackman, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Observation of Self-Similarity in the Magnetic Fields Generated by the Ablative Nonlinear Rayleigh–Taylor Instability," to be published in *Physical Review Letters*.

V. N. Goncharov, "Cryogenic Deuterium and Deuterium–Tritium Direct-Drive Implosions on OMEGA," to be published in *Laser-Plasma Interactions and Applications*.

I. V. Igumenshchev, D. H. Froula, D. H. Edgell, V. N. Goncharov, T. J. Kessler, F. J. Marshall, R. L. McCrory, P. W.

McKenty, D. D. Meyerhofer, D. T. Michel, T. C. Sangster, W. Seka, and S. Skupsky, "Laser-Beam Zooming to Mitigate Crossed-Beam Energy Losses in Direct-Drive Implosions," to be published in *Physical Review Letters*.

J. F. Myatt, H. X. Vu, D. F. DuBois, D. A. Russell, J. Zhang, R. W. Short, A. V. Maximov, W. Seka, and D. H. Edgell, "Mitigation of Two-Plasmon Decay in Direct-Drive Inertial Confinement Fusion Through the Manipulation of Ion-Acoustic and Langmuir Wave Damping," to be published in *Physics of Plasmas*.

S. Papernov, "Mechanisms of Near-Ultraviolet, Nanosecond-Pulse Laser Damage in $\text{HfO}_2/\text{SiO}_2$ -Based Multilayer Coatings," to be published in *Chinese Optics Letters*.

L. Parlato, R. Arpaia, C. De Lisio, F. Miletto Granzio, G. Pepe, P. Perna, V. Pagliarulo, C. Bonavolonta, M. Radovic, Y. Wang, R. Sobolewski, and U. Scotti di Uccio, "Time-Resolved Optical Response of All-Oxide $\text{YBa}_2\text{Cu}_3\text{O}_7/\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}$ Proximitized Bilayers," to be published in *Physical Review B*.

J. Qiao, P. A. Jaanimagi, R. Boni, J. Bromage, and E. Hill, "Measuring 8- to 250-ps Short Pulses Using a High-Speed Streak Camera on Kilojoule, Petawatt-Class Laser Systems," to be published in *Review of Scientific Instruments*.

Conference Presentations

R. L. McCrory, "LLE FY13–FY15 Plans," 2013 ICF Executives Meeting, Washington, DC, 10 January 2013.

Pumped Nanosecond Laser System with Flexible Pulse-Shaping Capability."

The following presentations were made at LASE Photonics West, San Francisco, CA, 2–7 February 2013:

M. Barczys, S.-W. Bahk, M. Spilatro, D. Coppenbarger, E. Hill, T. Hinterman, R. W. Kidder, J. Puth, T. Touris, and J. D. Zuegel, "Deployment of a Spatial Light Modulator-Based Beam-Shaping System on the OMEGA EP Laser."

J. E. Schoenly, W. Seka, G. Romanos, and P. Rechmann, "The Efficacy of Selective Calculus Ablation at 400 nm: Comparison to Conventional Calculus Removal Methods," *Lasers in Dentistry XIX*, San Francisco, CA, 2–7 February 2013.

J. H. Kelly, A. Shvydky, J. A. Marozas, M. J. Guardalben, B. E. Kruschwitz, L. J. Waxer, C. Dorrer, E. Hill, and A. V. Okishev, "Simulations of the Propagation of Multiple-FM Smoothing by Spectral Dispersion on OMEGA EP."

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, "Observation of Self-Similarity in the Magnetic Fields Generated by the Nonlinear Rayleigh–Taylor Instability," *Workshop on Exploratory Topics in Plasma and Fusion Research*, Fort Worth, TX, 12–15 February 2013.

B. E. Kruschwitz, J. H. Kelly, C. Dorrer, A. V. Okishev, L. J. Waxer, G. Balonek, I. A. Begishev, W. A. Bittle, A. Consentino, R. Cuffney, E. Hill, J. A. Marozas, M. Moore, R. G. Roides, and J. D. Zuegel, "Commissioning of a Multiple-FM Smoothing by Spectral Dispersion Demonstration System on OMEGA EP."

R. L. McCrory, "Direct-Drive and Alternate Approaches for Laser Inertial Confinement Fusion," 2013 AAAS Annual Meeting, Boston, MA, 14–18 February 2013.

A. V. Okishev, I. A. Begishev, R. Cuffney, S. Papernov, and J. D. Zuegel, "A Highly Energetic Multiwavelength Diode-

D. H. Froula, J. Bromage, D. Haberberger, P. M. Nilson, J. D. Zuegel, and D. D. Meyerhofer, "Ultrahigh-Intensity Research Plans at the Laboratory for Laser Energetics," Workshop on Frontiers in Extreme Relativistic Optics, Columbus, OH, 20–21 February 2013.

M. M. Mayton, Z. Hobbs, and S. D. Jacobs, "Reclamation of Slurries Used in Optics Manufacturing," The Center for Emerging and Innovative Sciences, University Technology Showcase, Rochester, NY, 26 March 2013.

