Publications and Conference Presentations

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Conference Presentations

R. L. McCrory, "Progress in Direct-Drive Inertial Confinement Fusion," 22nd IAEA Fusion Energy Conference, Geneva, Switzerland 13–18 October 2008.

The following presentations were made at Frontiers in Optics 2008, Rochester, NY, 19–23 October 2008:

W. Guan and J. R. Marciante, "Elimination of Self-Pulsations in Dual-Clad, Ytterbium-Doped Fiber Lasers."

W. Guan and J. R. Marciante, "Single-Frequency Hybrid Brillouin/Ytterbium Fiber Lasers."

L. Ji, W. R. Donaldson, and T. Y. Hsiang, "Multi-Wavelength Electro-Optic Pulse Sampling."

Z. Jiang and J. R. Marciante, "Precise Model Decomposition in Multimode Optical Fibers by Maximizing the Sum of Modal Weights."

L. Sun, S. B. Jiang, J. D. Zuegel, and J. R. Marciante, "Measurement of the Verdet Constant in a Terbium-Core–Doped Fiber."

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, "The OMEGA EP High-Energy, Short-Pulse Laser System," Laser Science XXIV, Rochester, NY, 19–23 October 2008 (invited).

The following presentations were made at the Optical Fabrication and Testing Topical Meeting, Rochester, NY, 19–23 October 2008:

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, "Optical Engineering of the OMEGA EP Laser System."

T. J. Kessler, "Surface Artifacts in Manufacturing and Use of Large Imaging Optics" (invited).

C. Miao, S. N. Shafrir, H. Romanofsky, J. Mici, J. C. Lambropoulos, and S. D. Jacobs, "Frictional Investigation for Magnetorheological Finishing (MRF) of Optical Glass and Hard Ceramics."

S. Salzman, H. Romanofsky, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "*In-Situ* Drag Force Measurements in MRF of Optical Glasses."

S. N. Shafrir, C. Miao, H. Romanofsky, J. C. Lambropoulos, and S. D. Jacobs, "Surface Texture in Material Removal with MRF on Optical Ceramics."

The following presentations were made at the International Conference on Ultrahigh Intensity Lasers, Shanghai-Tongli, China, 27–31 October 2008:

J. Bromage, S.-W. Bahk, D. Irwin, J. Kwiatkowski, A. Pruyne, M. Millecchia, M. Moore, and J. D. Zuegel, "A Focal-Spot Diagnostic for On-Shot Characterization of 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, "Tools and Techniques for Focusing OMEGA EP."

C. Dorrer, J. Bromage, and J. D. Zuegel, "High-Dynamic-Range, Single-Shot Cross-Correlator Using a Pulse Replicator."

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J. Qiao, J. H. Kelly, J. Bunkenburg, A. Kalb, D. Canning, and T. Nguyen, "Construction and Activation of Large-Aperture, Tiled-Grating Compressors for High-Energy, Petawatt-Class Chirped-Pulse–Amplification Systems."

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, "Activation of the OMEGA EP High-Energy, Short-Pulse 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,

"High-Temporal-Contrast Target Experiments Using a Hybrid OPCPA-Nd:Glass Multi-Terawatt (MTW) Laser System."

The following presentations were made at IEEE LEOS 2008, Newport Beach, CA, 9–13 November 2008:

W. R. Donaldson, J. R. Marciante, and R. G. Roides, "Single-Shot, Electro-Optic Measurements at 10 GHz with a Dynamic Range of 2400:1."

L. Ji, W. R. Donaldson, and T. Y. Hsiang, "Multi-Wavelength Electro-Optic Pulse Characterization."

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, "Applied Plasma Spectroscopy I: Laser Fusion Experiments," 13th International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 10–14 November 2008.

The following presentations were made at the 50th Annual Meeting of the APS Division of Plasma Physics, Dallas, TX, 17–21 November 2008:

K. S. Anderson, A. A. Solodov, R. Betti, P. W. McKenty, and W. Theobald, "Parametric Study of Direct-Drive, Fuel-Assembly Simulations of Fast-Ignition, Cone-in-Shell Targets."

M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, "Precision Equation-of-State (EOS) Measurements Using Laser-Driven Shock Waves Using the OMEGA Laser."

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, "Demonstration of the Shock-Timing Technique for Ignition Targets" (invited).

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, "Using GEANT4 to Model the Magnetic Recoil Spectrometer (MRS) for Down-Scattered and Primary-Neutron Measurements at OMEGA."

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, "Making Positrons Using the Titan Short-Pulse Laser."

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, "3-D Modeling of Planar Target-Mount Perturbation Experiments on OMEGA."

R. S. Craxton, P. W. McKenty, J. A. Marozas, and A. M. Cok, "Simulations of Polar-Drive NIF Targets Optimized for High Neutron Yields."

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, "Transport of Energetic Electrons Produced from Two-Plasmon Decay in the 1-D Hydrodynamic Code *LILAC*."

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, "Precision Scattered-Laser-Light Spectroscopy in Direct-Drive Implosions."

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, "Simulation and Optimization of Backlit Images of Cryogenic Implosions on OMEGA."

D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, S. Wilks, and R. Smith, "Optical Properties of Materials at High Pressure Using 'Sandwich' Targets."

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, "First Measurements of the Down-Scattered and Primary Neutron Spectrum Using the Magnetic Recoil Spectrometer (MRS) at OMEGA."

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V. N. Goncharov, T. C. Sangster, T. R. Boehly, P. B. Radha, R. L. McCrory, D. D. Meyerhofer, and S. Skupsky, "Multiple-Picket, Direct-Drive Target Designs for OMEGA and the NIF."

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, "Magnetized Hot-Spot Implosions Via Laser-Driven Flux Compression."

J. D. Hager, V. A. Smalyuk, S. X. Hu, D. D. Meyerhofer, and T. C. Sangster, "Rayleigh–Taylor Measurements in Planar Cryogenic D_2 Targets Using X-Ray Radiography 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, "Two-Dimensional Investigation of Neutron-Yield Performance in Direct-Drive, Low-Adiabat D_2 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, "Investigation of the Effects of Target Mounting in Direct-Drive Implosions on OMEGA."

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, "Optimization of Multiple-Picket, Direct-Drive Laser-Pulse Shapes with Foam Shells."

C. K. Li, "Proton Radiography of Electromagnetic Fields Associated with ICF Implosions and Laser-Irradiated Hohlraums."

D. Li, V. N. Goncharov, A. V. Maximov, I. V. Igumenshchev, and S. Skupsky, "Modeling of Multiple-Ion Heat Transport in ICF Implosions."

G. Li, C. Ren, R. Yan, V. N. Goncharov, T. L. Wang, W. B. Mori, and J. Tonge, "Three-Dimensional Effects in Laser Channeling in Fast-Ignition Targets."

J. A. Marozas, J. D. Zuegel, and T. J. B. Collins, "1.0-MJ CH-Foam Ignition Targets on the NIF Using 1-D Multi-FM SSD with 0.5 THz of Bandwidth."

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, "Low-Adiabat Polar-Drive Implosion Experiments on OMEGA."

A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, C. Stoeckl, and J. A. Delettrez, "Modeling of Two-Plasmon-Decay Instability in OMEGA Plasmas."

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, "Initial Experiments Using the OMEGA EP Laser System."

J. F. Myatt, D. H. Edgell, W. Seka, A. V. Maximov, R. W. Short, D. F. DuBois, D. A. Russell, and H. X. Vu, "Two-Plasmon-Decay Hot-Electron Distributions from Anistropic Thick-Target Bremsstrahlung Measurements."

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, "Fast-Electron-Energy Deposition in Dense Plasma."

O. Polomarov and R. Betti, "MHD Effects in Laser-Produced Plasmas."

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, "Modeling Observables to Diagnose Areal Density in OMEGA Implosions."

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, "Hohlraum Energetics with a Plastic-Lined Laser Entrance Hole."

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, "Recent Experimental Results from Cryogenic Implosions on OMEGA."

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, "Experimental Investigation of Thermal-Transport Models in Direct-Drive Targets Using X-Ray Absorption Spectroscopy."

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, "Two-Plasmon-Decay Instability in Direct-Drive Implosion Experiments."

R. W. Short, "Two-Plasmon Decay Driven by Multiple Obliquely Incident Laser Beams."

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, "Numerical Investigation of OMEGA Saturn Implosions."

N. Sinenian, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, and J. A. Delettrez, "Measurements of Ablator-Ion Spectra for Preheat and Compression Studies."

S. Skupsky, V. N. Goncharov, and D. Li, "Nonlocal Ion-Heat and Momentum Transport in ICF Implosions."

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, "Cryogenic Target Performance and Implosion Physics Studies on OMEGA" (invited).

A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. F. Myatt, J. A. Delettrez, S. Skupsky, W. Theobald, and C. Stoeckl, "Integrated Simulations of Implosion, Electron Transport, and Ignition for Direct-Drive, Fast-Ignition Targets."

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, "Advanced Ignition Experiments on OMEGA."

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, "High-Current Electron Transport Studies Using Coherent Transition Radiation."

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, "Intense Laser-to-Fast-Electron Coupling Efficiency in Wedge-Shaped-Cavity Targets."

D. R. Harding, Z. Bei, S. H. Chen, R. Q. Gram, T. Jones, M. Moynihan, and R. Garrell, "Microfluidic Methods for Producing Millimeter-Size Fuel Capsules for Inertial Fusion Energy," 2008 MRS Fall Meeting, Boston, MA, 1–5 December 2008.

J. E. Schoenly, W. Seka, and P. Rechmann, "Laser Ablation of Dental Calculus Around 400 nm Using a Ti:Sapphire Laser," Lasers in Dentistry XV, San Jose, CA, 24–29 January 2009.

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, "Inertial Fusion Research at the Laboratory for Laser Energetics," 29th International Workshop on Physics of High Energy Density in Matter, Hirschegg, Austria, 1–6 February 2009.

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, "Experimental Investigation of Inelastic X-Ray Scattering from Shock-Heated and Compressed Deuterium," International Workshop on Warm Dense Matter, Hakone, Japan, 16–19 March 2009.

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, "Bulk Heating of Solid-Density Matter Using Kilojoule Pulses on OMEGA EP," 16th International Con-ference on Atomic Processes in Plasmas, Monterey, CA, 22–26 March 2009.

The following presentations were made at OMEGA Laser Facility Users' Group Workshop, Rochester, NY, 29 April–1 May 2009:

M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, "Precision Equation of State (EOS) Measurements Using Laser-Driven Shock Waves on the OMEGA Laser."

D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, J. Eggert, R. Smith, D. G. Hicks, and G. Collins, "Measurements of Strain-Induced Refractive Index Changes in Shocked LiF Using Laser-Driven Flyer Plates."

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, "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."

J. Hager, V. A. Smalyuk, I. V. Igumenshchev, D. D. Meyerhofer, and T. C. Sangster, "First Rayleigh–Taylor and Richtmyer–Meshkov Instability Measurements in Laser-Driven Planar Targets on the OMEGA EP Laser."

D. R. Harding and M. J. Bonino, "Target Fabrication: Capabilities and the Ordering Process."

S. F. B. Morse, "Omega Facility: Status and Performance."

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, "Characterization and Optimization of Fast-Electron Sources Using Intense, Multi-kJ Pulses on OMEGA EP."

G. Pien, "Engineering Support and Qualification Process for Interfacing New Experiments."

C. Ren, G. Li, R. Yan, J. Tonge, and W. B. Mori, "Simulations of Laser Channeling in Millimeter-Scale Underdense Plasmas for Fast Ignition."

T. C. Sangster, "Diagnostic Status on OMEGA EP."

C. Stoeckl, "Status of OMEGA EP, an Experimentalist's Perspective."

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, "Status of Integrated Fast- and Shock-Ignition Experiments on OMEGA."

K. A. Thorp, "OMEGA Properties and Capabilities."

The following presentations were made at the Second International Conference on High Energy Density Physics, Austin, TX, 19–22 May 2009:

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, "Multiple-Picket, Low-Adiabat Cryogenic Fuel Compression 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, "Integrated Fast- and Shock-Ignition Experiments on OMEGA. "

The following presentations were made at CLEO/IQEC 2009, Baltimore, MD, 31 May–5 June 2009:

S.-W. Bahk and J. D. Zuegel, "A High-Resolution Amplitude and Wavefront Control System Based on a Direct Zonal Closed-Loop Approach."

I. A. Begishev, A. V. Okishev, R. G. Roides, and J. D. Zuegel, "All-Fiber Discrete Arbitrary Picket-Pulse Shaping."

J. Bromage, C. Dorrer, M. J. Shoup III, and J. D. Zuegel, "Optimizing Injection into Large-Mode-Area Photonic Crystal-Fiber Amplifiers by Spatially Resolved Spectral Interferometry."

C. Dorrer, "Near-Field Intensity Shaping with Binary Phase Plates."

C. Dorrer, "Statistical Analysis of Incoherent Pulse Shaping."

C. Dorrer and J. Bromage, "Simple High-Sensitivity, Electro-Optic Sagnac Spectral Shearing Interferometry for Short Optical Pulse Characterization."

J. R. Marciante and R. G. Roides, "Mode Control in Large-Mode-Area Fiber Lasers Via Gain Filtering."

W. Yang and C. Dorrer, "Ultrafast Pulse Characterization of Semiconductor Single-Section Fabry–Perot Mode-Locked Lasers."

The following presentations were made at ICOPS/SOFE 2009, San Diego, CA, 31 May–5 June 2009:

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, "Cryogenic Targets for Inertial Confinement Fusion Experiments and Future Fusion-Energy Applications."

W. T. Shmayda, G. Wainwright, and R. Janezic, "Cryogenic Tritium Operations at OMEGA."

The following presentations were made at the 39th Anomalous Absorption Conference, Bodega Bay, CA, 14–19 June 2009:

D. DuBois, D. Russell, H. Vu, and J. Myatt, "1/2 ω_0 Emission from the Nonlinear Currents Generated by the Two Plasmon Decay Instability."

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, "Time-Dependent Scattered-Light Spectroscopy in Direct-Drive-Implosion Experiments."

A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, J. A. Delettrez, and C. Stoeckl, "Modeling of Two-Plasmon-Decay Instability Under Crossed-Beam Irradiation."

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, "Extended Zakharov Modeling of the Two-Plasmon-Decay Instability in Inhomogeneous Direct-Drive ICF-Relevant Plasma."

D. Russell, D. DuBois, H. Vu, and J. Myatt, "3/2 ω_0 Emission from the LDI Langmuir Waves Excited in the Nonlinear Saturation of the Two Plasmon Decay Instability."

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, "Two-Plasmon-Decay Instability Relevant to Direct-Drive Experiments."

R. W. Short, "Anistropy of Two-Plasmon Decay for Multiple Obliquely Incident Laser Beams."

H. Vu, D. DuBois, D. Russell, and J. Myatt, "Hot Electrons Production from the Two-Plasmon Decay Instability."

The following presentations were made at the 16th APS Topical Conference in Shock Compression of Condensed Matter, Nashville, TN, 28 June–3 July 2009:

M. A. Barrios, D. E. Fratanduono, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and J. H. Eggert, "High-Precision Measurements of the Equation of State (EOS) of Polymers at 100 to 1000 GPa Using Laser-Driven Shock Waves."

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, "Measurements of Strain-Induced Refractive-Index Changes in Shocked LiF Using Laser-Driven Flyer Plates."

J. Bromage, C. Dorrer, J. R. Marciante, M. J. Shoup III, and J. D. Zuegel, "Modal Measurement of a Large-Mode-Area

Photonic-Crystal Fiber Amplifier Using Spatially Resolved Spectral Interferometry," 22nd Annual Solid State and Diode Laser Technology Review, Newton, MA, 29 June–1 July 2009.

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, "Advanced-Ignition-Concept Exploration on OMEGA," 36th EPS Conference on Plasma Physics, Sofia, Bulgaria, 29 June–3 July 2009.

L. Ji, W. R. Donaldson, and T. Y. Hsiang, "Electro-Optic Sampling Using Two/Multiple Optical Pulses," 14th Opto-Electronics and Communications Conference, Hong Kong, 13–17 July 2009.

The following presentations were made at Optical Manufacturing and Testing VIII, San Diego, CA, 2–6 August 2009:

C. Miao, J. C. Lambropoulos, S. N. Shafrir, H. Romanofsky, and S. D. Jacobs, "Contributions of Nanodiamond Abrasives and Deionized Water in Magnetorheological Finishing of Aluminum Oxynitride."

C. Miao, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Normal Force and Drag Force in Magnetorheological Finishing."

S. N. Shafrir, R. Shen, C. Miao, H. Romanofsky, M. Wang, J. Mici, J. Yang, J. C. Lambropoulos, and S. D. Jacobs, "Zirconia Coated Carbonyl Iron Particle-Based Magnetorheological Fluid for Polishing."

E. Glowacki, C. W. Ching, and K. L. Marshall, "Photoswitchable Gas Permeation Membranes Based on Azobenzene-Doped Liquid Crystals," Optics and Photonics, San Diego, CA, 2–6 August 2009 (invited).

The following presentations were made at the Ultrafast Optics and High Field Short Wavelength Meeting, Arcachon, France, 31 August–4 September 2009:

C. Dorrer, "High-Damage-Threshold Beam Shapers for High-Energy Laser Systems."

C. Dorrer and J. Bromage, "Simple High-Sensitivity, Electro-Optic Sagnac Spectral Shearing Interferometry for Optical Pulse Characterization."

C. Dorrer, J. Bromage, and J. D. Zuegel, "Single-Shot High-Dynamic-Range Cross-Correlator for High-Energy Laser Systems."

The following presentations were made at the Sixth International Conference on Inertial Fusion Sciences and Applications, San Francisco, CA, 6–11 September 2009:

R. Betti, K. S. Anderson, P. Y. Chang, R. Nora, and C. D. Zhou, "A Measurable Lawson Criterion for Inertial Confinement Fusion."

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, "Demonstration of the Shock-Timing Technique for Ignition Targets at 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, "Multiple-Picket, Cryogenic Target Designs and Performance for OMEGA and the NIF."

R. L. McCrory, R. Betti, 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, D. D. Meyerhofer, 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, "Progress in Cryogenic Target Implosions on OMEGA."

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