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## Publications and Conference Presentations

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### Conference Presentations

The following presentations were made at Frontiers in Optics 2009, San Jose, CA, 11–15 October 2009:

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

J. R. Marciante, "Spatial-Filtering Properties of Large-Mode-Area Fibers with Confined Gain Dopants."

L. Sun, S. Jiang, J. D. Zuegel, and J. R. Marciante, "All-Fiber Isolator Based on Faraday Rotation."

C. Dorrer, "Signal Reconstruction Techniques for Optical Pulse Characterization," *Signal Recovery and Synthesis*, San Jose, CA, 13–14 October 2009.

The following presentations were made at the 51st Annual Meeting of the APS Division of Plasma Physics, Atlanta, GA, 2–6 November 2009:

K. S. Anderson, R. Betti, P. Y. Chang, R. Nora, M. Fatenejad, and D. Shvarts, "Single- and Multidimensional Robustness Studies of the NIF Ignition Point Design."

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,

"High-Precision Measurements of the Equation of State (EOS) of Hydrocarbons at 1 to 10 Mbar Using Laser-Driven Shock Waves" (invited).

R. Betti, K. S. Anderson, P. Y. Chang, R. Nora, C. D. Zhou, B. Spears, J. Edwards, S. W. Haan, and J. Lindl, "ICF Ignition, the Lawson Criterion, and Comparison with MFE Ignition" (invited).

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, "Shock-Timing Measurements in Directly Driven Spherical Inertial Confinement Fusion Targets."

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R. S. Craxton, W. Theobald, W. Seka, S. Ivancic, G. Li, C. Ren, and D. Weiner, "Hydrodynamic Simulations and Optical Diagnosis of a Long-Scale-Length Channeling Experiment on OMEGA EP."

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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.”

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, “Cross-Beam Energy Transport in Direct-Drive-Implosion Experiments.”

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, V. A. Smalyuk, and W. Theobald, “Simulation and Analysis of Backlit Images of Cryogenic Implosions on OMEGA.”

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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, “Development of Scintillator Detectors for Fast-Ignition Experiments and Down-Scattered Neutron Measurements.”

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 National Ignition Facility.”

J. D. Hager, J. P. Knauer, S. X. Hu, D. D. Meyerhofer, T. C. Sangster, and V. A. Smalyuk, “Rayleigh–Taylor Measurements in Planar CH and SiO<sub>2</sub> Foils on OMEGA.”

S. X. Hu, B. Militzer, V. N. Goncharov, T. R. Boehly, P. B. Radha, and S. Skupsky, “Theoretical Investigation of Strong Coupling and Degeneracy Effects in ICF Implosions.”

I. V. Igumenshchev, D. H. Edgell, V. N. Goncharov, W. Seka, J. F. Myatt, A. V. Maximov, A. Shvydky, and J. A. Delettrez, “Modeling Crossed-Beam Energy Transfer in Implosion Experiments on OMEGA.”

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, “Compressing Magnetic Fields with High-Energy Lasers” (invited).

J. A. Marozas, T. J. B. Collins, and J. D. Zuegel, “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.”

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, “Polar-Driven Implosions on OMEGA: Observations and Simulations of Low-Mode Perturbations in the Main Fuel Layer and Hot Spot.”

A. V. Maximov, J. F. Myatt, R. W. Short, W. Seka, J. A. Delettrez, and C. Stoeckl, “Growth and Saturation of Two-Plasmon-Decay Instability Driven by Crossing Laser Beams in OMEGA Plasmas.”

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, “Design of High-Neutron-Yield, Polar-Drive Targets for Diagnostic Activation Experiments on the NIF.”

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, “Initial Results from the OMEGA EP Laser System.”

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, “Extended Zakharov Modeling of Preheat Caused by the Two-Plasmon Decay Instability in Direct-Drive ICF Plasmas.”

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, “Fast-Electron Generation with Multi-kJ Pulses on OMEGA EP.”

O. Polomarov, P. Y. Chang, O. V. Gotchev, and R. Betti, “Effects of External and Self-Generated Magnetic Fields on Laser-Driven Implosions.”

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, “Intensity Dependence of Target Performance in Low-Adiabatic Warm Implosions on OMEGA.”

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, “Inferring Electron Temperature of Shocked Liquid Deuterium Using Inelastic X-Ray Scattering.”

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, “Shock-Tuned Cryogenic DT-Implosion Performance on OMEGA” (invited).

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, “Mitigation of Fast-Electron Production by the Two-Plasmon-Decay Instability in Directly Driven Targets.”

R. W. Short, “Anisotropy and Angular Dependence of Two-Plasmon Decay Driven by Multiple Overlapping Laser Beams in Direct-Drive Geometry.”

A. Shvydky, P. W. McKenty, J. A. Delettrez, I. V. Igumenshchev, D. H. Edgell, S. Skupsky, and R. L. McCrory, “Numerical Investigation of the Effects of Cross-Beam Energy Transfer on the Drive Uniformity of OMEGA Implosions.”

A. A. Solodov, M. Storm, J. F. Myatt, R. Betti, D. D. Meyerhofer, P. M. Nilson, W. Theobald, and C. Stoeckl, “Simulations of Electron-Beam Transport in Solid-Density Targets and the Role of Magnetic Collimation.”

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, “Shock-Ignition Experiments on OMEGA at NIF-Relevant Intensities.”

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, “Integrated Fast-Ignition Experiments on OMEGA.”

J.-H. Yang and R. S. Craxton, “An Empirical Model for the Interaction of Ultra-Intense Laser Pulses with Fully Ionized Plasmas Including Electrostatic Effects.”

J. E. Schoenly, W. Seka, and P. Rechmann, “Selective Near-UV Ablation of Dental Calculus: Measurement of Removal Rates,” BiOS 2010, San Francisco, CA, 23–28 January 2010.

L. Sun, S. Jiang, and J. R. Marciante, “Compact All-Fiber Optical Faraday Isolator,” SPIE Photonics West–LASE, San Francisco, CA, 23–28 January 2010.

The following presentations were made at Advanced Solid-State Photonics, San Diego, CA, 31 January–3 February 2010:

J. Bromage, C. Dorrer, and J. D. Zuegel, “High-Resolution Spatio-Spectral Characterization of Noncollinear Optical Parametric Amplifiers.”

J. Bromage, C. Dorrer, and J. D. Zuegel, “Performance Trade-Offs for High-Repetition-Rate Noncollinear Optical Parametric Amplifiers.”

R. Xin and J. D. Zuegel, “Directly Chirped Laser Source for Chirped-Pulse Amplification.”

A. V. Okishev, D. Wang, D. Westerfeld, L. Shterengas, and G. Belenky, “Characterization of Highly Stable Mid-IR, GaSb-Based Laser Diodes,” Laser Applications to Chemical, Security and Environmental Analysis, San Diego, CA, 31 January–4 February 2010.

The following presentations were made at the 19th Target Fabrication Meeting, Orlando, FL, 21–26 February 2010:

Z. Bei, T. B. Jones, D. R. Harding, and A. Tucker-Schwartz, “Electric-Field Mediated Double-Emulsion Droplet Centering Using Density Gradient Suspension.”

M. J. Bonino, D. R. Harding, S. G. Noyes, J. Fooks, D. Turner, M. D. Wittman, and L. D. Lund, “Stalk-Mounted Cryogenic Targets: Rationale and Results.”

D. H. Edgell, M. D. Wittman, R. S. Craxton, D. R. Harding, B. Smith, and T. Lu, “Three-Dimensional Characterization of Cryogenic Targets Using X-Ray Phase-Contrast Imaging and Shadowgraphy at LLE.”

D. R. Harding, T. B. Jones, R. Q. Gram, Z. Bei, W. Wang, M. Moynihan, and S.-J. Scott, “Mass Fabrication of Cryogenic Targets for Inertial Fusion Energy.”

R. L. McCrory, “Inertial Confinement Fusion Research at the Laboratory for Laser Energetics.”

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, “Results of Recent NIF Polar-Drive Diagnostic Activation Experiments.”

M. Moynihan, D. R. Harding, and S. H. Chen, “Microfluidic T-Junctions to Mass Produce NIF and IFE Size Foam Targets.”

S.-J. Scott, D. R. Harding, and J. Fooks, “Mechanical Forces that Develop in Foam Material During Evaporative Drying.”

W. T. Shmayda, “Decontaminating Tritiated Surfaces with Humid Purge Streams.”

W. Wang, T. B. Jones, and D. R. Harding, “On-Chip Double-Emulsion Droplet Assembly Using EWOD and DEP.”

M. D. Wittman and D. R. Harding, “Development of NIF-Scale Polar-Drive Cryogenic Targets.”

The following presentations were made at OFC 2010, San Diego, CA, 21–25 March 2010:

J. R. Marciante and W. Guan, “Single-Frequency Hybrid Brillouin/Ytterbium Fiber Laser with 1-W Output Power.”

L. Sun, S. Jiang, and J. R. Marciante, “All-Fiber Optical Magnetic Field Sensor Based on Faraday Rotation.”

D. R. Harding, T. B. Jones, and D. D. Meyerhofer, “Mass Production of Targets for Inertial Fusion Energy,” 5th IAEA Technical Meeting, Vienna, Austria, 24–26 March 2010.

W. T. Shmayda and J. E. Fair, “Humidity and Temperature-Stimulated Outgassing from Contaminated Metal Surfaces,” Hydrogen and Helium Isotopes in Materials, Oak Ridge, TN, 20–21 April 2010.

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, “Optimizing Pair Production on Kilojoule-Class Lasers,” Workshop on Antimatter Using Intense Lasers, Berkeley, CA, 27–28 April 2010.

The following presentations were made at the OMEGA Laser Facility Users Workshop, Rochester, NY, 28–30 April 2010:

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, “High-Precision Measurements of the Equation of State of Hydrocarbons at 1- to 10-Mbar Using Laser-Driven Shock Waves.”

C. Dorrer, D. Irwin, A. Consentino, and J. Qiao, “OMEGA EP Temporal Contrast Measurements.”

G. Fiksel, R. Jungquist, P. M. Nilson, W. Theobald, and C. Stoeckl, “Development of a Spherical Crystal X-Ray Imaging Diagnostic for OMEGA and OMEGA EP.”

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, “Measures of Strain-Induced Refractive-Index Changes in Ramp-Compressed Lithium Fluoride.”

J. D. Hager, V. A. Smalyuk, S. X. Hu, D. D. Meyerhofer, and T. C. Sangster, “Rayleigh–Taylor Measurements in Planar CH and SiO<sub>2</sub> Foils on OMEGA.”

B. E. Kruschwitz, S.-W. Bahk, J. Bromage, D. Irwin, and M. Moore, “On-Shot Focal-Spot Characterization on OMEGA EP.”

S. F. B. Morse, "Facility Overview and Progress on 2009 OLUG Recommendations."

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, "Intense-Energy Coupling with Multikilojoule, 10-ps Pulses on OMEGA EP."

G. Pien, "Diagnostic Qualification and Infrastructure Update."

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. Zuegel, "Fourth-Harmonic Probe Diagnostic for OMEGA EP."

K. A. Thorp, "Omega Facility Status and Performance Update."

The following presentations were made at the 18th Topical Conference on High-Temperature Plasma Diagnostics, Wildwood, NJ, 16–20 May 2010:

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, "Time-Resolved Scattered-Light Spectroscopy in Direct-Drive-Impllosion Experiments on OMEGA."

G. Fiksel, C. Freeman, J. A. Frenje, J. C. Mileham, P. M. Nilson, N. Sinenian, C. Stoeckl, and W. Theobald, "Characterization of Composition and Energy Spectra of Laser-Produced Ions with Thomson Parabola."

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, "The National Ignition Facility Neutron Time-of-Flight System and Its Initial Performance" (invited).

F. J. Marshall, T. DeHaas, and V. Yu. Glebov, "Charge-Injection-Device Performance in the High-Energy-Neutron Environment of Laser-Fusion Experiments."

C. Stoeckl, M. Cruz, V. Yu. Glebov, J. P. Knauer, R. Lauck, K. L. Marshall, C. Mileham, T. C. Sangster, and W. Theobald, "A Gated Liquid-Scintillator-Based Neutron Detector for Fast-Ignitor Experiments and Down-Scattered Neutron Measurements."

The following presentations were made at CLEO 2010, San Jose, CA, 16–21 May 2010:

J. Bromage, C. Dorrer, and J. D. Zuegel, "Eliminating Spatio-temporal Distortions from Angular Dispersion in Noncollinear Optical Parametric Amplifiers."

C. Dorrer, D. Irwin, A. Consentino, and J. Qiao, "Contrast Measurements of Kilojoule Laser Pulses at the Omega Laser Facility."

B. E. Kruschwitz, S.-W. Bahk, J. Bromage, D. Irwin, M. Moore, L. J. Waxer, J. D. Zuegel, and J. H. Kelly, "Improved On-Shot Focal-Spot Diagnosis on the OMEGA EP Short-Pulse Laser System."

J. Qiao, L. J. Waxer, T. Nguyen, J. Bunkenburg, C. Kingsley, J. H. Kelly, A. W. Schmid, and D. Weiner, "*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."

R. C. G. Smith, A. M. Sarangan, and J. R. Marciante, "Direct Measurement of Bend-Induced Mode Deformation Using a Helical-Core Fiber."

L. Sun, S. Jiang, and J. R. Marciante, "A Compact All-Fiber Optical Faraday Mirror."

M. Vargas, Z. Zhao, K. L. Marshall, and C. Dorrer, "Optically Patterned Liquid Crystal Devices for High-Resolution Beam Shaping."

R. Xin and J. D. Zuegel, "Generation of CPA Seed Pulse by Direct Phase Modulation."

J. D. Zuegel, "Laser Fusion for Laser Jocks: Basic Principles of a Laser Application Meeting a Grand Challenge," CLEO Applications, San Jose, CA, 16–21 May 2010 (invited tutorial).

The following presentations were made at Optical Interference Coatings, Tucson, AZ, 6–11 June 2010:

K. L. Marshall, E. Glowacki, C. Sileo, L. Chockalingam, J. Lee, V. Guiliano, and A. Rigatti, “Improving the Abrasion Resistance of Organosilane-Modified Sol-Gel Coatings for High-Peak-Power Laser Applications.”

J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, and R. D. Hand “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 “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, J. Spaulding, D. Sadowski, Z. Chrzan, R. D. Hand, D. R. Gibson, I. Brinkley, and F. Placido, “Large-Aperture Plasma-Assisted Deposition of ICF Laser Coatings.”

A. L. Rigatti, J. B. Oliver, P. Kupinski, H. Floch, E. Lavastre, G. Ravel, and F. Geffraye, “CEA Deformable-Mirror Coating Test Results.”

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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, “High-Intensity Laser-Matter Interaction Experiments on the Kilojoule-Class OMEGA EP Laser,” 2010 Canadian Association of Physicists Congress, Toronto, Canada, 7–11 June 2010.

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The following presentations were made at Optical Fabrication and Testing, Jackson Hole, WY, 13–17 June 2010:

S. N. Shafir, 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, “Corrosion Resistant Zirconia Coated Carbonyl Iron Particle-Based Magnetorheological Fluid.”

M. D. Skarlinski and S. D. Jacobs, “Modifying the Rheological Properties of Zirconia Coated Carbonyl Iron Suspen-

sions Through Acid-Base Titration and the Addition of Di-Ammonium Citrate.”

The following presentations were made at the 40th Annual Anomalous Absorption Conference, Snowmass Village, CO, 13–18 June 2010:

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, “Preparing for Polar Drive at the National Ignition Facility.”

D. H. Edgell, J. F. Myatt, W. Seka, J. A. Delettrez, A. V. Maximov, R. W. Short, and R. E. Bahr, “Anisotropic Distribution of Hard X Rays from the Two-Plasmon-Decay Hot-Electron Distribution.”

M. G. Haines, J. A. Delettrez, J. F. Myatt, A. A. Solodov, T. J. B. Collins, and J. A. Marozas, “Electrothermally Generated Filaments in Laser–Solid Interactions.”

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, “Two-Dimensional Radiation-Hydrodynamic Simulations of Cryogenic-DT Implosions at the Omega Laser Facility.”

A. V. Maximov, J. F. Myatt, R. W. Short, R. Yan, and W. Seka, “Modeling of Two-Plasmon-Decay Instability in the Plasmas of Direct-Drive Inertial Confinement Fusion.”

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, “Calculations of Preheat Caused by the Two-Plasmon-Decay Instability in Direct-Drive ICF Plasmas.”

W. Seka, D. H. Edgell, J. F. Myatt, R. S. Craxton, A. V. Maximov, and R. W. Short, “SBS, SRS, and TPD in Planar Target Experiments Relevant to Direct-Drive ICF.”

R. W. Short, “Anisotropy of Collectively Driven Two-Plasmon Decay in Direct-Drive Spherical Irradiation Geometry.”

H. X. Vu, D. F. DuBois, D. A. Russell, J. F. Myatt, and W. Seka, “Hot-Electron Generation by the Two-Plasmon-Decay Instability in Inhomogeneous Plasmas.”

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, "Inertial Confinement Fusion Using the OMEGA Laser," 37th International Conference on Plasma Science, Norfolk, VA, 20–24 June 2010.

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E. Głowacki, K. Hunt, D. Abud, and K. L. Marshall, "Photo-switchable Gas Permeation Membranes Based on Azobenzene-Doped Liquid Crystals. II. Permeation-Switching Characterization Under Variable Volume and Variable Pressure Conditions," SPIE Optics and Photonics 2010, San Diego, CA, 1–5 August 2010.

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The following presentations were made at ICUIL, Watkins Glen, NY, 26 September–1 October 2010:

S.-W. Bahk, "A Simple Self-Referenced Piston Measurement for Characterizing a Segmented Wavefront from Tiled Gratings."

S.-W. Bahk, E. Fess, I. A. Begishev, and J. D. Zuegel, "High-Resolution, Adaptive Beam Shaping (HRABS) in a Multi-Terawatt Laser."

J. Bromage, C. Dorrer, and J. D. Zuegel, "A 160-nm-Bandwidth Front End for Ultra-Intense OPCPA."

C. Dorrer, "Temporal Characterization Diagnostics for High-Intensity Laser Systems."

C. Dorrer, D. Irwin, A. Consentino, and J. Qiao, "Contrast Measurements of Kilojoule Laser Pulses at the OMEGA EP Laser Facility."

C. Dorrer, P. Leung, M. Vargas, J. Boule, K. Wegman, Z. Zhao, and K. L. Marshall, "Development of High-Fluence Beam Shapers."

B. E. Kruschwitz, S.-W. Bahk, J. Bromage, D. Irwin, and M. D. Moore, "Improved On-Shot Focal-Spot Measurement Using Phase-Retrieval-Assisted Wavefront Measurements."

B. E. Kruschwitz, M. J. Guardalben, J. H. Kelly, J. Qiao, I. A. Begishev, J. Bromage, S.-W. Bahk, C. Dorrer, L. Folsbee, 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, "Current Performance of the OMEGA EP High-Energy Short-Pulse Laser System."

J. Qiao, A. W. Schmid, L. J. Waxer, T. Nguyen, J. Bunkenburg, C. Kingsley, A. Kozlov, and D. Weiner, "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."

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S. Papernov, A. Tait, W. Bittle, A. W. Schmid, J. B. Oliver, and P. Kupinski, "Submicrometer-Resolution Mapping of Ultraweak 355-nm Absorption in HfO<sub>2</sub> Monolayers Using Photothermal Heterodyne Imaging," XLII Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 27–29 September 2010.

