
Publications and Conference Presentations

Publications

- S. G. Demos and R. A. Negres, "Morphology of Ejected Particles and Impact Sites on Intercepting Substrates Following Exit-Surface Laser Damage with Nanosecond Pulses in Silica," *Opt. Eng.* **56**, 011016 (2016).
- V. N. Goncharov, S. P. Regan, E. M. Campbell, T. C. Sangster, P. B. Radha, J. F. Myatt, D. H. Froula, R. Betti, T. R. Boehly, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. T. Michel, W. Seka, A. Shvydky, C. Stoeckl, W. Theobald, and M. Gatu-Johnson, "National Direct-Drive Program on OMEGA and the National Ignition Facility," *Plasma Phys. Control. Fusion* **59**, 014008 (2017) (invited).
- M. C. Gregor, R. Boni, A. Sorce, J. Kendrick, C. A. McCoy, D. N. Polsin, T. R. Boehly, P. M. Celliers, G. W. Collins, D. E. Fratanduono, J. H. Eggert, and M. Millot, "Absolute Calibration of the OMEGA Streaked Optical Pyrometer for Temperature Measurements of Compressed Materials," *Rev. Sci. Instrum.* **87**, 114903 (2016).
- S. X. Hu, D. T. Michel, A. K. Davis, R. Betti, P. B. Radha, E. M. Campbell, D. H. Froula, and C. Stoeckl, "Understanding the Effects of Laser Imprint on Plastic-Target Implosions on OMEGA," *Phys. Plasmas* **23**, 102701 (2016).
- A. A. Kozlov, S. Papernov, J. B. Oliver, A. Rigatti, B. Taylor, B. Charles, and C. Smith, "Study of the Picosecond Laser Damage in $\text{HfO}_2/\text{SiO}_2$ -Based Thin-Film Coatings in Vacuum," *Proc. SPIE.* **10014**, 100141Y (2016).
- C. K. Li, P. Tzeferacos, D. Lamb, G. Gregori, P. A. Norreys, M. J. Rosenberg, R. K. Follett, D. H. Froula, M. Koenig, F. H. Seguin, J. A. Frenje, H. G. Rinderknecht, H. Sio, A. B. Zylstra, R. D. Petrasso, P. A. Amendt, H. S. Park, B. A. Remington, D. D. Ryutov, S. C. Wilks, R. Betti, A. Frank, S. X. Hu, T. C. Sangster, P. Hartigan, R. P. Drake, C. C. Kuranz, S. V. Lebedev, and N. C. Woolsey, "Scaled Laboratory Experiments Explain the Kink Behaviour of the Crab Nebula Jet," *Nature Commun.* **7**, 13081 (2016).
- J. B. Oliver, "Analysis of a Planetary-Rotation System for Evaporated Optical Coatings," *Appl. Opt.* **55**, 8550 (2016).
- J. B. Oliver, "Impact of Deposition-Rate Fluctuations on Thin-Film Thickness and Uniformity," *Opt. Lett.* **41**, 5182 (2016).
- S. Papernov, A. A. Kozlov, J. B. Oliver, C. Smith, L. Jensen, S. Günster, H. Mädebach, and D. Ristau, "Role of $\text{HfO}_2/\text{SiO}_2$ Thin-Film Interfaces in Near-Ultraviolet Absorption and Pulsed Laser Damage," *Opt. Eng.* **56**, 011004 (2016).
- B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "Spectral Splitting of Optical Pulses Inside a Dispersive Medium at a Temporal Boundary," *IEEE J. Quantum Electron.* **52**, 6100708 (2016).
- S. Salzman, H. J. Romanofsky, G. West, K. L. Marshall, S. D. Jacobs, and J. C. Lambropoulos, "Acidic Magnetorheological Finishing of Infrared Polycrystalline Materials," *Appl. Opt.* **55**, 8448 (2016).
- A. A. Solodov, B. Yaakobi, D. H. Edgell, R. K. Follett, J. F. Myatt, C. Sorce, and D. H. Froula, "Measurements of Hot-Electron Temperature in Laser-Irradiated Plasmas," *Phys. Plasmas* **23**, 102707 (2016).

Forthcoming Publications

D. H. Barnak, R. Betti, M. J. Bonino, E. M. Campbell, J. R. Davies, V. Yu. Glebov, D. R. Harding, J. P. Knauer, S. P. Regan, A. B. Sefkow, A. J. Harvey-Thompson, K. J. Peterson, D. B. Sinars, S. A. Slutz, and M. R. Weis, “Magnetized Liner Inertial Fusion on OMEGA,” to be published in *Physics of Plasmas* (invited).

C. Dorrer, W. A. Bittle, R. Cuffney, M. Spilatro, E. M. Hill, T. Z. Kosc, J. H. Kelly, and J. D. Zuegel, “Time-Multiplexed Pulse Shaping,” to be published in the *Journal of Light-wave Technology*.

C. Dorrer and J. Hassett, “Model-Based Optimization of Near-Field Binary Pixelated-Beam Shapers,” to be published in *Applied Optics*.

R. Epstein, S. P. Regan, B. A. Hammel, L. J. Suter, H. A. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, G. W. Collins, S. N. Dixit, T. Doepfner, M. J. Edwards, D. R. Farley, K. B. Fournier, S. Glenn, S. H. Glenzer, I. E. Golovkin, A. Hamza, D. G. Hicks, N. Izumi, O. S. Jones, M. H. Key, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. Mackinnon, R. C. Mancini, R. L. McCrory, D. D. Meyerhofer, N. B. Meezan, A. Nikroo, H.-S. Park, P. K. Patel, J. E. Ralph, B. A. Remington, T. C. Sangster, V. A. Smalyuk, P. T. Springer, R. P. J. Town, and J. L. Tucker, “Applications and Results of X-Ray Spectroscopy in Implosion Experiments at the National Ignition Facility,” to be published in the *Proceedings of Atomic Processes in Plasmas* (invited).

C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, “The Impact of Acid Treatments and Electropolishing Stainless-Steel Surfaces on Tritium Inventories,” to be published in *Fusion Science and Technology*.

C. J. Forrest, P. B. Radha, J. P. Knauer, V. N. Goncharov, V. Yu. Glebov, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. T. Shmayda, C. Stoeckl, and M. Gatu Johnson, “First Measurements of Deuterium–Tritium and Deuterium–Deuterium Fusion-Reaction Yields in Ignition-Scalable Direct-Drive Implosions,” to be published in *Physical Review Letters*.

R. F. Heeter, J. E. Bailey, R. S. Craxton, B. G. DeVolder, E. S. Dodd, E. M. Garia, E. J. Huffman, C. A. Iglesias, J. A. King, J. L. Kline, D. A. Liedahl, P. W. McKenty, Y. P. Opachich, G. A. Rochau, P. W. Ross, M. B. Schneider, M. E. Sherrill,

B. G. Wilson, R. Zhang, and T. S. Perry, “Conceptual Design of Initial Opacity Experiments on the National Ignition Facility,” to be published in the *Journal of Plasma Physics*.

I. V. Igumenshchev, D. T. Michel, R. C. Shah, E. M. Campbell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, A. J. Schmitt, and S. P. Obenschain, “Three-Dimensional Hydrodynamic Simulations of OMEGA Implosions,” to be published in *Physics of Plasmas* (invited).

J. F. Myatt, R. K. Follett, J. G. Shaw, D. H. Edgell, D. H. Froula, I. V. Igumenshchev, and V. N. Goncharov, “A Wave-Based Model for Cross-Beam Energy Transfer in Direct-Drive Inertial Confinement Fusion,” to be published in *Physics of Plasmas*.

J. B. Oliver, “Impact of Non-Integer Planetary Revolutions on the Distribution of Evaporated Optical Coatings,” to be published in *Applied Optics*.

T. Petersen, J. Bromage, and J. D. Zuegel, “High-Average-Power, 2- μm Femtosecond Optical Parametric Oscillator Synchronously Pumped by a Thin-Disk, Mode-Locked Laser,” to be published in *Optics Express*.

B. S. Rice, J. Ulreich, J. Crippen, P. Fitzsimmons, and A. Nikroo, “Permeation Fill-Tube Design for Inertial Confinement Fusion Target Capsules,” to be published in *High Power Laser Science and Engineering* (special issue).

C. Stoeckl, R. Epstein, R. Betti, W. Bittle, J. A. Delettrez, 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, R. L. McCrory, D. T. Michel, C. Mileham, P. W. McKenty, F. J. Marshall, S. F. B. Morse, S. P. Regan, P. B. Radha, B. S. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, D. D. Meyerhofer, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, “Monochromatic Backlighting of Direct-Drive Cryogenic DT Implosions on OMEGA,” to be published in *Physics of Plasmas* (invited).

D. Turnbull, C. Goyon, G. E. Kemp, B. B. Pollock, D. Mariscal, L. Divol, J. S. Ross, S. Patankar, J. D. Moody, and P. Michel, “Refractive Index Seen by a Probe Beam Interacting with a Laser-Plasma System,” to be published in *Physical Review Letters*.

Conference Presentations

Y. Zhao and W. R. Donaldson, "Materials Properties Characterization and Device Simulation on a Nonuniform Al Component $\text{Al}_x\text{Ga}_{1-x}\text{N}$ Metal–Semiconductor–Metal Photodetector," International Workshop on Nitride Semiconductors, Orlando, FL, 2–7 October 2016.

The following presentations were made at the Industrial Associates Fall Meeting 2016, Rochester, NY, 9–12 October 2016:

Y. Li and C. Dorrer, "Wavefront-Aberration Correction Using Binary Amplitude and Polarization Modulation."

B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "Spectral Splitting of Optical Pulses Inside a Dispersive Medium at a Temporal Boundary."

E. M. Campbell, J. Bromage, J. D. Zuegel, S. G. Demos, D. H. Froula, D. Haberberger, B. Krupke, P. A. Norreys, J. Sadler, B. Bingham, N. Fisch, and W. Leemans, "High-Peak-Power Laser Research at the Laboratory for Laser Energetics and the Pathway to a 100-Petawatt-Class Laser," Nuclear Photonics 2016, Monterey, CA, 16–21 October 2016.

The following presentations were made at Frontiers in Optics, Rochester, NY, 17–21 October 2016:

S. G. Demos, B. N. Hoffman, T. J. Kessler, M. D. Feit, R. A. Negres, C. W. Carr, D. A. Cross, J. Bude, and A. M. Rubenchik, "Transient Modulation of Refractive Index Under Exposure to High-Power Laser Pulses" (invited).

T. Z. Kosc, "Steve Jacobs: The Optics Outreach Innovator."

Y. Li and C. Dorrer, "Wavefront-Aberration Correction Using Binary Amplitude and Polarization Modulation."

K. L. Marshall, "Thirty-Five Years of Liquid Crystal Research at the Laboratory for Laser Energetics: From Laser Fusion to Electronic Paper" (invited).

B. W. Plansinis, G. P. Agrawal, and W. R. Donaldson, "Removing Pulse Jitter with Temporal Waveguides."

J. M. Schoen, "History of the Center for Optics Manufacturing" (invited).

K. A. Sharma, T. A. Germer, C. Smith, J. D. Zuegel, J. B. Oliver, and T. G. Brown, "Scattered-Light Analysis of Birefringent Coatings for Distributed Polarization Rotators."

The following presentations were made at the 37th Tritium Focus Group Meeting, Rochester, NY, 25–27 October 2016:

T. Burke, M. Sharpe, and W. T. Shmayda, "Tritium in Targets Measured by an X-Ray Detection System."

C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, "The Effect of Surface Modifications on Tritium Adsorption and Absorption by Stainless Steel (316)."

M. Sharpe, C. Fagan, and W. T. Shmayda, "Influence of the Water Layers Adsorbed onto Stainless-Steel 316 on Tritium Migration."

W. T. Shmayda, "Properties of DT Ice in Cryotargets."

M. D. Wittman, N. P. Redden, D. R. Harding, W. T. Shmayda, A. Agliata, C. Rees, R. Chapman, R. F. Earley, J. Magoon, M. J. Shoup III, C. Taylor, R. Taylor, J. Ulreich, C. Abbot, T. Lewis, M. H. Romanofsky, J. Szczepanski, J. Konzel, S. Reber, D. J. Lonobile, and J. L. Reid, "Cryogenic Fill-Tube Target Facility for Evaluating DT-Filled National Ignition Facility and OMEGA-Scale Cryogenic Targets."

T. Petersen, J. Bromage, and J. D. Zuegel, "High-Average-Power, 2- μm Femtosecond Optical Parametric Oscillator Synchronously Pumped by a Thin-Disk, Mode-Locked Laser," Advanced Solid State Lasers Conference, Boston, MA, 30 October–3 November 2016.

The following presentations were made at the 58th Annual Meeting of the APS Division of Plasma Physics, San Jose, CA, 31 October–4 November 2016:

K. S. Anderson, P. W. McKenty, A. Shvydky, J. P. Knauer, T. J. B. Collins, P. B. Radha, F. Weilacher, and M. M. Marinak, “Three-Dimensional Analysis of the Effects of Low-Mode Asymmetries on OMEGA Cryogenic Implosions.”

D. H. Barnak, R. Betti, M. J. Bonino, E. M. Campbell, J. R. Davies, V. Yu. Glebov, D. R. Harding, J. P. Knauer, S. P. Regan, A. B. Sefkow, A. J. Harvey-Thompson, K. J. Peterson, D. B. Sinars, S. A. Slutz, and M. R. Weis, “Magnetized Liner Inertial Fusion on OMEGA” (invited).

R. Betti, J. P. Knauer, A. V. Maximov, T. J. B. Collins, C. Stoeckl, A. Bose, J. Woo, A. R. Christopherson, A. Shvydky, W. Theobald, J. A. Delettrez, F. J. Marshall, P. B. Radha, S. P. Regan, E. M. Campbell, W. Shang, W. Seka, and S. X. Hu, “The 1-D Campaign on OMEGA: A Systematic Approach to Find the Optimum Path to Ignition.”

E. Borwick, S. X. Hu, J. Li, R. Yan, and C. Ren, “Full-Pulse Particle-in-Cell Simulations of Hot-Electron Generation in OMEGA Experiments.”

A. Bose, K. M. Woo, R. Betti, D. Mangino, A. R. Christopherson, E. M. Campbell, R. L. McCrory, S. P. Regan, V. N. Goncharov, T. C. Sangster, C. J. Forrest, V. Yu. Glebov, J. P. Knauer, F. J. Marshall, C. Stoeckl, W. Theobald, R. Nora, J. A. Frenje, M. Gatu Johnson, and D. Shvarts, “Achievement of Core Conditions for Alpha Heating in Direct-Drive Inertial Confinement Fusion.”

S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, “Transforming the Idler to Seed Raman Amplification.”

D. Cao, P. W. McKenty, J. P. Knauer, and D. R. Harding, “Investigation of Acquired Fuel Motion Caused by Ice Roughness in OMEGA Cryogenic Experiments.”

A. R. Christopherson, R. Betti, W. Theobald, C. J. Forrest, E. M. Campbell, J. Howard, J. A. Delettrez, C. Stoeckl, D. H. Edgell, W. Seka, V. Yu. Glebov, A. K. Davis, A. Bose, A. V. Maximov, M. S. Wei, and J. Peebles, “Direct Measurements of Hot-Electron Preheat in Inertial Confinement Fusion Implosions.”

D. Clarkson, R. Ume, R. Sheets, S. P. Regan, T. C. Sangster, S. Padalino, and J. McLean, “Bulk Etch Rate and Swell Rate of CR-39.”

T. J. B. Collins, R. Betti, A. Bose, A. R. Christopherson, V. N. Goncharov, J. P. Knauer, J. A. Marozas, F. J. Marshall, A. V. Maximov, D. T. Michel, A. Mora, P. B. Radha, S. P. Regan, W. Shang, A. Shvydky, C. Stoeckl, K. M. Woo, and G. Varchas, “Multidimensional Study of High-Adiabatic OMEGA Cryogenic Experiments.”

K. Cook, M. Coats, M. Yuly, S. Padalino, T. C. Sangster, and S. P. Regan, “Measurement of the 6He Decay Produced by the $9\text{Be}(n,\alpha)6\text{He}$ Reaction.”

R. S. Craxton, M. Hohenberger, W. E. Kehoe, F. J. Marshall, D. T. Michel, P. B. Radha, and M. J. Rosenberg, “Design of Platforms for Backlighting Spherical Implosions on OMEGA and the National Ignition Facility.”

A. Davies, S. Bucht, J. Katz, D. Haberberger, I. A. Begishev, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, J. D. Sadler, R. Trines, R. Bingham, and P. A. Norreys, “Picosecond Characterization of Underdense Plasmas for Studying Nonlinear Electron Plasma Wave Dynamics.”

J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, V. Yu. Glebov, J. P. Knauer, A. B. Sefkow, K. J. Peterson, D. B. Sinars, S. A. Slutz, and M. R. Weis, “Temperature Scaling for Magnetized Linear Inertial Fusion.”

A. K. Davis, D. T. Michel, S. X. Hu, Y. Ding, R. Epstein, J. P. Knauer, and D. H. Froula, “Conduction-Zone Measurements Using X-Ray Self-Emission Images.”

J. A. Delettrez, R. K. Follett, J. F. Myatt, and C. Stoeckl, “Evaluation of the Fast-Electron Source Function for Two-Plasmon Decay from the Temporal Hard X-Ray Emission.”

D. H. Edgell, R. K. Follett, J. Katz, J. F. Myatt, J. G. Shaw, and D. H. Froula, “Three-Dimensional Modeling of Polarization Effects on Cross-Beam Energy Transfer in OMEGA Implosions.”

R. Epstein, C. Stoeckl, V. N. Goncharov, P. W. McKenty, S. P. Regan, S. X. Hu, and I. V. Igumenshchev, “Simulation and Analysis of Time-Resolved Narrowband Radiographs of Cryogenic Implosions on OMEGA.”

R. K. Follett, D. H. Edgell, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, J. G. Shaw, and J. F. Myatt, “Comparing Ray-Based and Wave-Based Models of Cross-Beam Energy Transfer.”

- C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. T. Shmayda, C. Stoeckl, and M. Gatu Johnson, "Measurements of Fusion Reaction Yield Ratios in Ignition-Relevant Direct-Drive Cryogenic Deuterium-Tritium Implosions."
- D. H. Froula, D. Turnbull, D. H. Edgell, R. K. Follett, J. F. Myatt, T. J. Kessler, T. C. Sangster, M. Campbell, P. Michel, J. Weaver, and S. P. Obenschain, "Focused Cross-Beam Energy Transfer Experiments on OMEGA."
- M. K. Ginnane, B. Kousar, J. Slis, K. Palmisano, S. Mandanas, S. J. Padalino, T. C. Sangster, S. P. Regan, C. Mileham, and C. Stoeckl, "TNSA Heavy Ion Measurements Using the Time-Resolved Tandem Faraday Cup."
- V. Yu. Glebov, D. H. Barnak, J. R. Davies, J. P. Knauer, C. Stoeckl, R. Betti, S. P. Regan, T. C. Sangster, and E. M. Campbell, "Neutron Measurements in Laser-Driven MagLIF Experiments on OMEGA."
- V. N. Goncharov, T. J. B. Collins, J. A. Marozas, S. P. Regan, E. M. Campbell, D. H. Froula, I. V. Igumenshchev, R. L. McCrory, J. F. Myatt, P. B. Radha, T. C. Sangster, and A. Shvydky, "High-Performance Cryogenic Designs for OMEGA and the National Ignition Facility."
- M. C. Gregor, T. R. Boehly, G. W. Collins, R. Rygg, D. N. Polsin, B. J. Henderson, D. E. Fratanduono, P. M. Celliers, T. Braun, J. H. Eggert, C. A. McCoy, and D. D. Meyerhofer, "The Shock and Release Behavior of Diamond Compressed to 25 Mbar" (invited).
- D. Haberberger, A. Davies, S. Bucht, J. Bromage, J. D. Zuegel, D. H. Froula, R. Trines, R. Bingham, P. A. Norreys, and J. Sadler, "Tunable Plasma-Wave Laser Amplifier."
- L. Hao, R. Yan, J. Li, and C. Ren, "Development of a New Fluid Code to Study Laser-Plasma Instabilities."
- H. Harrison, H. Seppala, H. Visca, P. Wakwella, K. Fletcher, S. Padalino, C. J. Forrest, S. P. Regan, and T. C. Sangster, "Characterizing Neutron Diagnostics on the nTOF Line at SUNY Geneseo."
- R. F. Heeter, M. F. Ahmed, S. L. Ayers, J. A. Emig, C. A. Iglesias, D. A. Liedahl, M. B. Schneider, B. G. Wilson, E. J. Huffman, J. A. King, Y. P. Opachich, P. W. Ross, J. E. Bailey, G. A. Rochau, R. S. Craxton, E. M. Garcia, P. W. McKenty, R. Zhang, T. Cardenas, B. G. Devolder, E. S. Dodd, J. L. Kline, M. E. Sherrill, and T. S. Perry, "Design of Initial Opacity Platform at the National Ignition Facility."
- B. Henderson, T. R. Boehly, S. X. Hu, M. C. Gregor, D. N. Polsin, R. Rygg, G. W. Collins, D. E. Fratanduono, R. Kraus, J. H. Eggert, and P. M. Celliers, "Hugoniot Measurements of Silicon Shock Compressed to 25 Mbar."
- M. Hohenberger, J. A. Marozas, P. W. McKenty, M. J. Rosenberg, P. B. Radha, D. Cao, J. P. Knauer, S. P. Regan, M. W. Bowers, J.-M. Di Nicola, G. Erbert, B. J. MacGowan, L. J. Pelz, and S. T. Yang, "Experimental Investigation of Cross-Beam Energy Transfer Mitigation via Wavelength Detuning in Directly Driven Implosions at the National Ignition Facility."
- S. X. Hu, D. T. Michel, A. K. Davis, R. Betti, P. B. Radha, V. N. Goncharov, E. M. Campbell, D. H. Froula, C. Stoeckl, "Understanding Laser-Imprint Effects on Plastic-Target Implosions on OMEGA with New Physics Models."
- I. V. Igumenshchev, D. T. Michel, R. C. Shah, E. M. Campbell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, A. J. Schmitt, and S. P. Obenschain, "Three-Dimensional Hydrodynamic Simulations of OMEGA Implosions" (invited).
- J. P. Knauer, S. X. Hu, V. N. Goncharov, and D. Haberberger, "Density Profile of a Foil Accelerated by Laser Ablation."
- J. Li, R. Yan, and C. Ren, "Density-Modulation-Induced Absolute Laser-Plasma Instabilities in Inertial Confinement Fusion."
- J. A. Marozas, M. J. Rosenberg, P. B. Radha, F. J. Marshall, W. Seka, D. Cao, P. W. McKenty, T. C. Sangster, S. P. Regan, V. N. Goncharov, E. M. Campbell, R. L. McCrory, M. Hohenberger, M. W. Bowers, J.-M. Di Nicola, G. Erbert, B. J. MacGowan, L. J. Pelz, and S. T. Yang, "Wavelength Detuning Cross-Beam Energy Transfer Mitigation for Polar and Symmetric Direct Drive."
- A. V. Maximov, H. Wen, J. F. Myatt, R. W. Short, W. Seka, M. J. Rosenberg, and C. Ren, "Laser-Plasma Interaction Near the Quarter-Critical Density in Direct-Drive Inertial Confinement Fusion."
- P. W. McKenty, D. Cao, T. J. B. Collins, A. Shvydky, and K. S. Anderson, "Evaluations of Long-Wavelength Perturbations in OMEGA 80-Gbar Cryogenic Implosions."

D. T. Michel, S. X. Hu, A. K. Davis, E. M. Campbell, R. S. Craxton, V. Yu. Glebov, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, C. Stoeckl, and D. H. Froula, “Measurements of the Effect of Adiabatic on the Shell Decompression in Direct-Drive Implosions on OMEGA.”

J. F. Myatt, J. G. Shaw, R. K. Follett, D. H. Edgell, V. N. Goncharov, J. Bates, and J. Weaver, “A Wave-Based Model for Cross-Beam Energy Transfer in Direct-Drive Inertial Confinement Fusion Implosions” (invited).

P. M. Nilson, F. Ehrne, C. Mileham, D. Mastro Simone, R. K. Junquist, C. Taylor, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, C. Stoeckl, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, “High-Resolving-Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP.”

Y. P. Opachich, P. W. Ross, R. F. Heeter, M. A. Barrios, D. A. Liedahl, M. J. May, M. B. Schneider, R. S. Craxton, E. M. Garcia, P. W. McKenty, R. Zhang, J. L. Weaver, K. A. Flippo, J. L. Kline, and T. S. Perry, “Iron Opacity Platform Performance Characterization at the National Ignition Facility.”

A. Pak, “Shock-Wave Acceleration of Protons on OMEGA EP.”

D. N. Polsin, T. R. Boehly, J. A. Delettrez, G. W. Collins, R. Rygg, M. C. Gregor, B. Henderson, C. A. McCoy, D. E. Fratanduono, R. Smith, R. Kraus, J. H. Eggert, F. Coppari, and P. M. Celliers, “Observation of Solid–Solid Phase Transitions in Ramp-Compressed Aluminum.”

P. B. Radha, M. Hohenberger, J. A. Marozas, F. J. Marshall, M. J. Rosenberg, W. Seka, E. M. Campbell, D. H. Edgell, V. N. Goncharov, R. L. McCrory, P. W. McKenty, S. P. Regan, T. C. Sangster, J. D. Moody, H. Sio, J. A. Frenje, B. Lahmann, and R. D. Petrasso, “Signatures of Cross-Beam Energy Transfer Mitigation in Proof-of-Principle National Ignition Facility Direct-Drive Experiments.”

S. P. Regan, V. N. Goncharov, R. Epstein, D. Cao, I. V. Igumenshchev, S. X. Hu, K. S. Anderson, R. Betti, M. J. Bonino, E. M. Campbell, T. J. B. Collins, C. J. Forrest, V. Yu. Glebov, D. R. Harding, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, P. B. Radha, T. C. Sangster, C. Stoeckl, M. Schoff, R. Luo, and M. Farrell, “Hydrodynamic Mixing of Ablator Material into the Compressed Fuel and Hot Spot of Direct-Drive DT Cryogenic Implosions.”

M. J. Rosenberg, F. H. Séguin, J. A. Frenje, H. Sio, M. Gatu Johnson, N. Sinenian, C. K. Li, R. D. Petrasso, P. W. McKenty, I. V. Igumenshchev, J. R. Rygg, V. Yu. Glebov, C. Stoeckl, W. Seka, F. J. Marshall, J. A. Delettrez, R. Betti, V. N. Goncharov, P. B. Radha, J. P. Knauer, T. C. Sangster, N. M. Hoffman, G. Kagan, A. Zylstra, H. W. Herrmann, R. E. Olson, D. D. Meyerhofer, H. G. Rinderknecht, P. A. Amendt, R. P. J. Town, S. Le Pape, M. Hohenberger, T. Ma, A. J. Mackinnon, S. C. Wilks, C. Bellei, D. T. Casey, O. L. Landen, J. D. Lindl, H.-S. Park, J. Pino, B. A. Remington, H. F. Robey, M. D. Rosen, A. Nikroo, S. Atzeni, W. Fox, and M. J.-E. Manuel, “Demonstration of Ion Kinetic Effects in Inertial Confinement Fusion Implosions and Investigation of Magnetic Reconnection Using Laser-Produced Plasmas” (invited).

M. J. Rosenberg, A. A. Solodov, W. Seka, J. F. Myatt, S. P. Regan, M. Hohenberger, A. V. Maximov, T. J. B. Collins, V. N. Goncharov, R. Epstein, R. W. Short, D. P. Turnbull, D. H. Froula, P. B. Radha, P. A. Michel, T. Chapman, J. D. Moody, L. Masse, C. Goyon, J. E. Ralph, M. A. Barrios, J. W. Bates, and A. J. Schmitt, “Planar Laser–Plasma Interaction Experiments at Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility.”

W. Seka, M. J. Rosenberg, J. F. Myatt, A. A. Solodov, D. H. Edgell, R. W. Short, S. P. Regan, A. V. Maximov, P. Michel, C. S. Goyon, and J. D. Moody, “Stimulated Raman Scattering in Direct-Drive Inertial Confinement Fusion.”

W. Shang, R. Betti, K. M. Woo, A. Bose, A. R. Christopherson, and S. X. Hu, “Two-Dimensional Simulations of Electron Shock Ignition at the Megajoule Scale.”

J. L. Shaw, N. Lemos, L. D. Amorim, N. Vafaei-Najafabadi, K. A. Marsh, F. S. Tsung, W. B. Mori, and C. Joshi, “Direct Laser Acceleration of Electrons in a Laser Wakefield Accelerator with Ionization Injection.”

R. Sheets, D. Clarkson, R. Ume, S. P. Regan, T. C. Sangster, S. Padalino, and J. Mclean, “Reduced Noise UV Enhancement of Etch Rates for Nuclear Tracks in CR-39.”

R. W. Short, H. Wen, A. V. Maximov, J. F. Myatt, and W. Seka, “Relative Significance of the Stimulated Raman Scattering and Two-Plasmon–Decay Instabilities at Quarter-Critical Density.”

A. Shvydky, M. Hohenberger, P. B. Radha, M. J. Rosenberg, K. S. Anderson, V. N. Goncharov, J. A. Marozas, F. J. Marshall,

P. W. McKenty, S. P. Regan, T. C. Sangster, J. M. Koning, M. M. Marinak, and L. Masse, “Three-Dimensional Evaluation of Laser Imprint in National Ignition Facility Multi-FM Smoothing by Spectral Dispersion Experiment.”

A. A. Solodov, M. J. Rosenberg, J. F. Myatt, W. Seka, M. Hohenberger, R. Epstein, R. W. Short, J. G. Shaw, S. P. Regan, D. Turnbull, D. H. Froula, P. B. Radha, J. W. Bates, A. J. Schmitt, P. Michel, T. Chapman, J. D. Moody, J. E. Ralph, and M. A. Barrios, “Hot-Electron Generation at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility.”

C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, I. A. Begishev, D. H. Froula, and I. E. Golovkin, “Picosecond Streaked K-Shell Spectroscopy of Near-Solid-Density Aluminum Plasmas.”

C. Stoeckl, R. Epstein, R. Betti, W. Bittle, J. A. Delettrez, 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, R. L. McCrory, D. T. Michel, C. Mileham, P. W. McKenty, F. J. Marshall, S. F. B. Morse, S. P. Regan, P. B. Radha, B. S. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, D. D. Meyerhofer, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, “Monochromatic Backlighting of Direct-Drive Cryogenic DT Implosions on OMEGA” (invited).

W. Theobald, R. Betti, A. Bose, W. Seka, C. Stoeckl, A. Casner, F. N. Beg, E. Llor Aisa, X. Ribeyre, V. Tikhonchuk, M. S. Wei, M. Vu, M. Hoppe Jr., M. E. Schoff, R. J. Florido, and R. Mancini, “The Generation of Gigabar Pressures for High-Energy-Density Plasmas.”

D. Turnbull, P. A. Michel, C. Goyon, B. B. Pollock, G. E. Kemp, T. Chapman, D. Mariscal, L. Divol, J. S. Ross, S. Patankar, and J. D. Moody, “Measuring the Refractive Index of a Laser-Plasma Optical System.”

R. J. Ward, G. M. Brown, D. Ho, B. F. O. F Stockler, C. G. Freeman, S. J. Padalino, and S. P. Regan, “Heavy Ion Beams from an Alphasource Source for Use in Calibration and Testing of Diagnostics.”

K. M. Woo, R. Betti, R. Yan, H. Aluie, A. Bose, D. X. Zhao, and V. Gopalaswamy, “Study of Yield and Pressure Degradation in Inertial Confinement Fusion.”

R. Yan, E. Borwick, R. Betti, J. Li, W. Theobald, and C. Ren, “Particle-in-Cell Simulations of Nonlinear Laser-Plasma Interactions and Hot-Electron Generation in the Shock-Ignition Regime.”

The following presentations were made at the 40th IEEE EDS Activities in Western New York Conference, Rochester, NY, 4 November 2016:

Y. Akbas, A. Jukna, L. Q. Zhang, Y. Almi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, T. González, T. Plecenik, P. Durina, A. Plecnik, G. Wicks, and R. Sobolewski, “Ultra-High Optical Responsivity of Semiconducting Asymmetric Nano-Channel Diodes.”

G. Chen, R. Shrestha, A. Koroliov, A. Jukna, A. Amori, T. Krauss, Z. Staniszewski, E. Fray, A. Łaszcz, A. Czerwinski, M. C. Richter, and R. Sobolewski, “Characterization of Carbon Nanostructures Through THz Spectroscopy.”

The following presentations were made at the Rochester Academy of Science 43rd Annual Fall Session, Rochester, NY, 12 November 2016:

C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, “The Effect of Surface Modifications on Tritium Adsorption and Absorption by Stainless-Steel 316.”

M. Sharpe, C. Fagan, and W. T. Shmayda, “Influence of the Water Layers Adsorbed onto Stainless-Steel 316 on Tritium Migration.”

B. P. Chock, D. R. Harding, and T. B. Jones, “Dispensing Surfactant-Containing Water Droplets Using Electrowetting,” 2016 AIChE Annual Meeting, San Francisco, CA, 13–18 November 2016.

P. M. Nilson, F. Ehrne, C. Mileham, D. Mastro Simone, R. K. Jungquist, C. Taylor, R. Boni, J. Hassett, C. R. Stillman, S. T. Ivancic, D. J. Lonobile, R. W. Kidder, M. J. Shoup III,

A. A. Solodov, C. Stoeckl, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, "High-Resolving-Power, Ultrafast Streaked X-Ray Spectroscopy on OMEGA EP," National Diagnostics Workshop, Livermore, CA, 29–30 November 2016.

The following presentations were made at the 2016 International Workshop on Radiative Properties of Hot Dense Matter, Santa Barbara, CA, 5–9 December 2016:

R. Epstein, C. Stoeckl, V. N. Goncharov, P. W. McKenty, F. J. Marshall, S. P. Regan, R. Betti, W. Bittle, D. D. Harding, S. X. Hu, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, C. Mileham, S. F. B. Morse, P. B. Radha, B. S. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, J. Ulreich, and M. D. Wittman, "Simulation and Analysis of Time-Resolved Narrowband Radiographs of Cryogenic Implosions on OMEGA."

S. T. Ivancic, P. M. Nilson, C. R. Stillman, C. Mileham, and D. H. Froula, "An Extreme Ultraviolet Spectrometer Suite for Characterization of Rapidly Heated Solid Matter."

P. M. Nilson, G. Fiksel, C. Stoeckl, P. A. Jaanimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Streaked X-Ray Imaging of Ultrafast Ionization Fronts Inside a Metal."

C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, I. A. Begishev, D. H. Froula, and I. E. Golovkin, "Picosecond Time-Resolved Observations of Dense Plasma Line Shifts."

D. H. Froula, "Thomson Scattering in Laser-Produced Plasmas," Cornell Laboratory of Plasma Studies Seminar, Ithaca, NY, 7 December 2016.

D. H. Froula, "Laser–Plasma Instabilities: The Pathway to Understanding and Control," NNSA Seminar, Washington, DC, 13 December 2016.

T. C. Sangster, "The National Direct-Drive Program," Fusion Power Associates, Washington, DC, 13–14 December 2016.