

---

## Publications and Conference Presentations

---

### Publications

---

- Y. Akbas, A. Stern, L. Q. Zhang, Y. Alimi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, T. González, G. W. Wicks, and R. Sobolewski, "Ultra-high Responsivity of Optically Active, Semiconducting Asymmetric Nano-Channel Diodes," *J. Phys.: Conf. Ser.* **647**, 012013 (2015).
- R. S. Craxton, K. S. Anderson, T. R. Boehly, V. N. Goncharov, D. R. Harding, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. F. Myatt, A. J. Schmitt, J. D. Sethian, R. W. Short, S. Skupsky, W. Theobald, W. L. Kruer, K. Tanaka, R. Betti, T. J. B. Collins, J. A. Delettrez, S. X. Hu, J. A. Marozas, A. V. Maximov, D. T. Michel, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, A. A. Solodov, J. M. Soures, C. Stoeckl, and J. D. Zuegel, "Direct-Drive Inertial Confinement Fusion: A Review," *Phys. Plasmas* **22**, 110501 (2015).
- J. R. Davies, R. Betti, P.-Y. Chang, and G. Fiksel, "The Importance of Electrothermal Terms in Ohm's Law for Magnetized Spherical Implosions," *Phys. Plasmas* **22**, 112703 (2015).
- C. Dorrer, L. J. Waxer, A. Kalb, E. M. Hill, and J. Bromage, "Single-Shot High-Resolution Characterization of Optical Pulses by Spectral Phase Diversity," *Opt. Express* **23**, 33,116 (2015).
- S. X. Hu, L. A. Collins, V. N. Goncharov, J. D. Kress, R. L. McCrory, and S. Skupsky, "First-Principles Equation of State of Polystyrene and its Effect on Inertial Confinement Fusion Implosions," *Phys. Rev. E* **92**, 043104 (2015).
- M. Margala, H. Wu, and R. Sobolewski, "Ballistic Deflection Transistors and Their Application to THz Amplification," *J. Phys.: Conf. Ser.* **647**, 012020 (2015).
- K. L. Marshall, E. R. Sekera, and K. Xiao, "Computational Chemistry Modeling and Design of Photoswitchable Alignment Materials for Optically Addressable Liquid Crystal Devices," *Proc. SPIE* **9565**, 95650T (2015) (invited).
- S. Papernov, A. A. Kozlov, J. B. Oliver, C. Smith, L. Jensen, D. Ristau, S. Günster, and H. Mädebach, "The Role of Film Interfaces in Near-Ultraviolet Absorption and Pulsed-Laser Damage in Ion-Beam-Sputtered Coatings Based on HfO<sub>2</sub>/SiO<sub>2</sub> Thin-Film Pairs," *Proc. SPIE* **9632**, 96320B (2015).
- B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "What is the Temporal Analog of Reflection and Refraction of Optical Beams?" *Phys. Rev. Lett.* **115**, 183901 (2015).
- S. Salzman, L. J. Giannechini, H. J. Romanofsky, N. Golini, B. Taylor, S. D. Jacobs, and J. C. Lambropoulos, "Advanced Zirconia-Coated Carbonyl-Iron Particles for Acidic Magneto-rheological Finishing of Chemical-Vapor-Deposited ZnS and Other IR Materials," *Proc. SPIE* **9633**, 963307 (2015).
- J. Serafini, Y. Akbas, L. Crandall, R. Bellman, C. Kosik Williams, and R. Sobolewski, "Nonequilibrium Carrier Dynamics in Ultrathin Si-on-Glass Films," *J. Phys.: Conf. Ser.* **647**, 012032 (2015).
- W. T. Shmayda, M. Sharpe, A. M. Boyce, R. Shea, B. Petroski, and W. U. Schröder, "Dependence of Tritium Release From Stainless Steel on Temperature and Water Vapor," *Fusion Sci. Technol.* **68**, 766 (2015).

---

**Forthcoming Publications**


---

B. P. Chock, T. B. Jones, and D. R. Harding, "Effect of a Surfactant on the Electric-Field Assembly of Oil/Water Emulsions for Making Foam Targets," to be published in *Fusion Science and Technology*.

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. Döppner, 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 on the National Ignition Facility," to be published in the *Proceedings of Atomic Processes in Plasmas* (invited).

D. R. Harding, D. C. Whitaker, and C. Fella, "Growth of a Solid DT Crystal from the Liquid Inside Inertial Confinement Fusion Targets," to be published in *Fusion Science and Technology*.

V. V. Ivanov, A. A. Anderson, and I. A. Begishev, "Four-Color Laser Diagnostics for Z-Pinch and Laser-Produced Plasma," to be published in *Applied Optics*.

F. J. Marshall, P. B. Radha, M. J. Bonino, J. A. Delettrez, R. Epstein, V. Yu. Glebov, and D. R. Harding, "Polar-Direct-Drive Experiments with Contoured-Shell Targets on OMEGA," to be published in *Physics of Plasmas*.

P. B. Radha, V. N. Goncharov, M. Hohenberger, T. C. Sangster, R. Betti, R. S. Craxton, D. H. Edgell, R. Epstein, D. H. Froula,

J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, S. X. Hu, W. Seka, A. Shvydky, S. Skupsky, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, T. Ma, S. Le Pape, and A. J. Mackinnon, "Direct-Drive-Implosion Physics: Results from OMEGA and the National Ignition Facility," to be published in the *Journal of Physics: Conference Series*.

S. Salzman, H. J. Romanofsky, L. J. Giannechini, S. D. Jacobs, and J. C. Lambropoulos, "Magnetorheological Finishing of Chemical-Vapor-Deposited Zinc Sulfide via Chemically and Mechanically Modified Fluids," to be published in *Applied Optics*.

S. Salzman, H. J. Romanofsky, S. D. Jacobs, and J. C. Lambropoulos, "Surface-Texture Evolution of Different Chemical-Vapor-Deposited Zinc Sulfide Flats Polished with Various Magnetorheological Fluids," to be published in *Precision Engineering*.

J. Serafini, Y. Wang, R. Bellman, C. K. Williams, and R. Sobolewski, "Time-Resolved Carrier Dynamics of Thin Film Si-on-Glass Absorbers for Photovoltaic Cells," to be published in *Semiconductor Science and Technology*.

M. Sharpe, W. T. Shmayda, and W. U. Schröder, "Tritium Migration to the Surfaces of Stainless-Steel 316, Aluminum 6061, and Oxygen-Free, High-Conductivity Copper," to be published in *Fusion Science and Technology*.

N. D. Viza, M. H. Romanofsky, M. J. Moynihan, and D. R. Harding, "The Effect of a Surfactant on the Operation of T-Junctions for Mass-Producing Foam Targets," to be published in *Fusion Science and Technology*.

---

**Conference Presentations**


---

D. Polsin, T. R. Boehly, S. Ivancic, M. C. Gregor, C. A. McCoy, D. D. Meyerhofer, D. E. Fratanduono, and P. M. Celliers, "Probing the Release of Shocked Material," 3rd High-Power Laser Workshop, Menlo Park, CA, 5–6 October 2015.

The following presentations were made at the Industrial Associates Fall 2015 Meeting, Rochester, NY, 12–13 October 2015:

B. W. Plansinis, G. P. Agrawal, and W. R. Donaldson, "Temporal Analog of Reflection and Refraction."

K. A. Sharma, T. A. Germer, J. D. Zuegel, and T. G. Brown, "A Review of Scattered Light Analysis for Distributed Polarization Rotators."

The following presentations were made at Optifab 2015, Rochester, NY, 12–15 October 2015:

S. Salzman, L. J. Giannechini, H. J. Romanofsky, N. Golini, B. Taylor, S. D. Jacobs, and J. C. Lambropoulos, "Advanced Zirconia-Coated Carbonyl-Iron Particles for Acidic Magneto-rheological Finishing of Chemical-Vapor-Deposited ZnS and Other IR Materials."

K. Tinkham, T. Jacobs, M. Mayton, Z. Hobbs, K. L. Marshall, and S. D. Jacobs, "Cerium Oxide Polishing Slurry Reclamation Project: Characterization Techniques and Results."

W. T. Shmayda, "Tritium Operations at the Laboratory for Laser Energetics," Health Physics Society, Rochester, NY, 15 October 2015.

The following presentations were made at Frontiers in Optics, San Jose, CA, 18–22 October 2015:

T. Petersen and J. Bromage, "A High-Average-Power, Degenerate, 2.06  $\mu\text{m}$  BiB<sub>3</sub>O<sub>6</sub> Femtosecond Optical Parametric Oscillator."

B. W. Plansinis, G. P. Agrawal, and W. R. Donaldson, "Temporal Analog of Reflection and Refraction."

R. L. McCrory, "From ALPHA to OMEGA EP—The History of LLE," OSA Rochester Section, Rochester, NY, 27 October 2015.

W. Theobald, "Shock Ignition—An Alternative Concept for Laser Fusion," GSI Presentation, Darmstadt, Germany, 27 October 2015 (invited).

The following presentations were made at the Tritium Focus Group, Los Alamos, NM, 3–5 November 2015:

W. T. Shmayda, "Radiological Challenges at the Laboratory for Laser Energetics."

W. T. Shmayda, M. Sharpe, and M. Cody, "Modeling Tritium on Metal Surfaces."

W. R. Donaldson, "Electro-Optic Measurements on the OMEGA Laser System: How to do Small Science in a Big Science Environment," 39th Annual IEEE EDS Activities in Western New York Conference, Rochester, NY, 6 November 2015 (invited).

The following presentations were made at the 57th Annual Meeting of the APS Division of Plasma Physics, Savannah, GA, 16–20 November 2015:

K. S. Anderson, P. W. McKenty, A. Shvydky, J. P. Knauer, T. J. B. Collins, J. A. Delettrez, D. Keller, and M. M. Marinak, "Characterizing Hot-Spot Dynamics of Direct-Drive Cryogenic Implosions on OMEGA."

D. H. Barnak, R. Betti, P.-Y. Chang, and J. R. Davies, "First Results from Laser-Driven MagLIF Experiments on OMEGA: Time Evolution of Laser Gas Heating Using Soft X-Ray Diagnostics."

P. X. Belancourt, P. A. Keiter, R. P. Drake, W. Theobald, T. J. B. Collins, M. J. Bonino, and P. Kozlowski, "Equation-of-State Measurements of Resorcinol Formaldehyde Foam Using Imaging X-Ray Thomson Spectrometer."

T. R. Boehly, M. J. Rosenberg, M. Hohenberger, D. N. Polsin, P. B. Radha, A. Shvydky, V. N. Goncharov, D. R. Harding, S. P. Regan, T. C. Sangster, P. M. Celliers, D. E. Fratanduono, and S. N. Dixit, "Polar-Direct-Drive Shock-Timing Measurements at the National Ignition Facility."

A. Bose, R. Betti, K. M. Woo, A. R. Christopherson, and D. Shvarts, "Effects of Long- and Intermediate-Wavelength Asymmetries on Hot-Spot Energetics."

D. Cao, J. A. Marozas, T. J. B. Collins, P. B. Radha, and P. W. McKenty, "A New Immediate Far-Field Spot Design for Polar Direct Drive at the National Ignition Facility."

P.-Y. Chang, D. H. Barnak, R. Betti, E. M. Campbell, J. R. Davies, J. P. Knauer, K. J. Peterson, A. B. Sefkow, D. B. Sinars, S. A. Slutz, and G. Fiksel, “First Results from Laser-Driven MagLIF Experiments on OMEGA: Optimization of Illumination Uniformity.”

A. R. Christopherson, A. Bose, K. M. Woo, J. Howard, K. S. Anderson, E. M. Campbell, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, W. Theobald, M. J. Edwards, R. Nora, B. K. Spears, J. Sanz, O. A. Hurricane, J. D. Lindl, P. K. Patel, and D. Shvarts, “Alpha Heating and Burning Plasmas in Inertial Confinement Fusion” (invited).

T. J. B. Collins, J. A. Marozas, S. Skupsky, D. Cao, P. W. McKenty, J. A. Delettrez, and G. Moses, “Design Options for Polar-Direct-Drive Targets: From Alpha Heating to Ignition.”

R. S. Craxton, Y. Z. Kong, E. M. Garcia, P. Huang, J. Kinney, P. W. McKenty, R. Zhang, S. Le Pape, F. Coppari, R. F. Heeter, B. J. MacGowan, J. R. Rygg, and M. B. Schneider, “Beam-Pointing Designs for Exploding-Pusher Proton and X-Ray Backlighting Targets at the National Ignition Facility.”

A. Davies, S. Bucht, J. Katz, D. Haberberger, J. Bromage, J. D. Zuegel, D. H. Froula, P. A. Norreys, R. Bingham, J. Saldler, R. Trines, and L. O. Silva, “A Tunable (1100-nm to 1500-nm) 50-mJ Laser Enables a Pump-Depleting Plasma-Wave Amplifier.”

J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, P.-Y. Chang, G. Fiksel, W. Seka, K. J. Peterson, A. B. Sefkow, D. B. Sinars, and S. A. Slutz, “First Results from Laser-Driven MagLIF Experiments on OMEGA: Backscatter and Transmission Measurements of Laser Preheating.”

A. K. Davis, D. Cao, D. T. Michel, D. H. Edgell, R. Epstein, V. N. Goncharov, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, J. A. Marozas, A. V. Maximov, J. F. Myatt, P. B. Radha, S. P. Regan, T. C. Sangster, J. G. Shaw, D. H. Froula, M. Lafon, J. D. Moody, and R. J. Wallace, “Angularly Resolved Mass Ablation Rate and Ablation-Front-Trajectory Measurements at the Omega Laser and National Ignition Facilities” (invited).

J. A. Delettrez, B. Yaakobi, J. F. Myatt, and D. H. Edgell, “Recent Advances in the Transport Modeling of Two-Plasmon–Decay Electrons in the 1-D Hydrodynamic Code *LILAC*.”

T. Eckert, A. Gula, L. Vincett, M. Yuly, S. J. Padalino, M. Russ, A. Simone, D. Ellison, M. Bienstck, H. Desmitt, T. C. Sangster,

and S. P. Regan, “Efficiency Calibration for Measuring the  $^{12}\text{C}(n,2n)^{11}\text{C}$  Cross-Section.”

D. H. Edgell, R. K. Follett, V. N. Goncharov, I. V. Igumenshchev, J. Katz, J. F. Myatt, W. Seka, and D. H. Froula, “Diagnosing Cross-Beam Energy Transfer Using Beamlets of Unabsorbed Light from Direct-Drive Implosions.”

R. Epstein, M. J. Rosenberg, A. A. Solodov, J. F. Myatt, S. P. Regan, W. Seka, M. Hohenberger, M. A. Barrios, and J. D. Moody, “Application and Analysis of the Isoelectronic Line Ratio Temperature Diagnostic in a Planar Ablating-Plasma Experiment at the National Ignition Facility.”

T. M. Filkins, J. A. Steidle, R. Ward, C. Freeman, T. C. Sangster, and S. P. Regan, “Radiochromic Film Sensitivity Calibrations Using Ion Beams from a Pelletron Accelerator.”

R. K. Follett, J. G. Shaw, D. H. Edgell, R. J. Henchen, S. X. Hu, J. Katz, D. T. Michel, J. F. Myatt, A. A. Solodov, C. Stoeckl, B. Yaakobi, and D. H. Froula, “Modeling Hot-Electron Measurements in Multibeam Two-Plasmon–Decay Experiments.”

C. J. Forrest, V. Yu. Glebov, J. P. Knauer, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, W. U. Schröder, J. A. Frenje, M. Gatu Johnson, M. W. Paris, G. Hale, and A. B. Zylstra, “Neutron Induced Deuterium Breakup in Inertial Confinement Fusion at the Omega Laser Facility.”

D. H. Froula, R. K. Follett, R. J. Henchen, V. N. Goncharov, D. T. Michel, A. A. Solodov, J. A. Delettrez, D. H. Edgell, B. Yaakobi, C. Stoeckl, and J. F. Myatt, “Mitigation of Two-Plasmon Decay in Direct-Drive Implosions Using Multi-layer Targets.”

V. Yu. Glebov, C. J. Forrest, J. P. Knauer, S. P. Regan, T. C. Sangster, and C. Stoeckl, “A New Neutron Time-of-Flight Detector for DT Yield and Ion-Temperature Measurements on OMEGA.”

V. N. Goncharov, S. P. Regan, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, W. T. Shmayda, A. Shvydky, S. Skupsky, C. Stoeckl, W. Theobald, F. Weilacher, B. Yaakobi,

- J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, S. P. Obenschain, and M. Karasik, "Cross-Beam Energy Transfer Mitigation in Cryogenic Implosions on OMEGA."
- X. Gong, V. N. Goncharov, and I. V. Igumenshchev, "A 3-D Model of Hot-Spot Formation in Inertial Confinement Fusion Implosions."
- M. C. Gregor, T. R. Boehly, C. A. McCoy, D. N. Polsin, D. D. Meyerhofer, D. E. Fratanduono, P. M. Celliers, and G. W. Collins, "The Release Behavior of Diamond Shocked to 25 Mbar."
- D. Haberberger, D. H. Froula, S. X. Hu, C. Joshi, S. Tochitsky, C. Gong, F. Fiuza, and L. Silva, "Shock-Wave Acceleration of Ions on OMEGA EP."
- R. J. Hennen, S. X. Hu, R. K. Follett, J. Katz, V. N. Goncharov, D. H. Froula, and W. Rozmus, "Heat-Flux Measurements from Collective Thomson-Scattering Spectra."
- M. Hohenberger, A. Shvydky, P. B. Radha, M. J. Rosenberg, V. N. Goncharov, S. Le Pape, F. J. Marshall, D. T. Michel, J. P. Knauer, S. P. Regan, T. C. Sangster, S. R. Nagel, A. Nikroo, V. A. Smalyuk, and R. J. Wallace, "Hydrodynamic Instability Growth in Polar-Direct-Drive Implosions at the National Ignition Facility."
- S. X. Hu, L. A. Collins, J. D. Kress, V. N. Goncharov, T. R. Boehly, R. L. McCrory, and S. Skupsky, "First-Principles Investigations on Thermal Conductivity and Average Ionization of CH Ablators Under Extreme Conditions."
- I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, K. Silverstein, J. P. Knauer, D. H. Froula, and S. P. Regan, "Numerical Study of Large-Scale, Laser-Induced Nonuniformities in Cryogenic OMEGA Implosions."
- S. Ivancic, P. M. Nilson, C. R. Stillman, C. Mileham, and D. H. Froula, "Design of an Extreme Ultraviolet Spectrometer Suite for Isochoric-Heated Warm-Dense-Matter Studies."
- J. P. Knauer, M. Gatu Johnson, R. M. Bionta, E. J. Bond, D. K. Bradley, J. A. Caggiano, D. A. Callahan, D. T. Casey, C. J. Cerjan, T. Doepfner, M. J. Eckart, M. J. Edwards, J. A. Frenje, V. Yu. Glebov, G. P. Grim, E. P. Hartouni, R. Hatarik, D. E. Hinkel, O. A. Hurricane, W. W. Hsing, J. D. Kilkenny, A. Kritcher, O. L. Landen, S. Le Pape, T. Ma, A. J. Mackinnon, D. H. Munro, H.-S. Park, P. K. Patel, R. D. Petrasso, J. E. Ralph, B. A. Remington, T. C. Sangster, D. B. Sayre, B. K. Spears, and C. B. Yeamans, "Neutron Yield and Ion Temperature from DD and DT Fusion in National Ignition Facility High-Foot Implosions."
- P. Lawson-Keister, J. Padawar-Curry, H. Visca, K. Fletcher, S. J. Padalino, T. C. Sangster, and S. P. Regan, "Characterizing ICF Neutron Scintillation Diagnostics on the nTOF Line at SUNY Geneseo."
- J. Li, S. X. Hu, and C. Ren, "Effects of Laser-Plasma Instabilities on Hydro Evolution in Direct-Drive Inertial Confinement Fusion."
- J. A. Marozas, T. J. B. Collins, P. W. McKenty, and J. D. Zuegel, "Improved Wavelength Detuning Cross-Beam Energy Transfer Mitigation Strategy for Polar Direct Drive at the National Ignition Facility."
- F. J. Marshall, V. N. Goncharov, V. Yu. Glebov, S. P. Regan, T. C. Sangster, and C. Stoeckl, "Framed X-Ray Imaging of Cryogenic Target Implosion Cores on OMEGA."
- A. V. Maximov, J. F. Myatt, R. W. Short, I. V. Igumenshchev, and W. Seka, "Beam Energy Exchange Driven by Incoherent Laser Beams with Frequency Detuning."
- C. A. McCoy, M. C. Gregor, D. N. Polsin, T. R. Boehly, D. E. Fratanduono, P. M. Celliers, G. W. Collins, and D. D. Meyerhofer, "Measurements of Sound Velocity and Grüneisen Parameter in CH and MgO Shocked to TPa Pressures."
- P. W. McKenty, J. A. Marozas, F. J. Marshall, J. Weaver, S. P. Obenschain, and A. J. Schmitt, "Evaluation of Wavelength Detuning to Mitigate Cross-Beam Energy Transfer Using the Nike Laser."
- D. T. Michel, T. C. Sangster, V. N. Goncharov, A. K. Davis, I. V. Igumenshchev, R. Epstein, V. Yu. Glebov, S. X. Hu, D. D. Meyerhofer, S. P. Regan, W. Seka, A. Shvydky, C. Stoeckl, and D. H. Froula, "Measurements of the Conduction-Zone Length and Mass Ablation Rate in Cryogenic Direct-Drive Implosions on OMEGA to Restrict Thermal-Transport Models."
- J. F. Myatt, J. G. Shaw, V. N. Goncharov, J. Zhang, A. V. Maximov, R. W. Short, R. K. Follett, W. Seka, D. H. Edgell, D. H. Froula, D. F. DuBois, D. A. Russell, and H. X. Vu, "A Numerical Model for Two-Plasmon-Decay Hot-Electron Production and Mitigation in Direct-Drive Implosions."



P. M. Nilson, G. Fiksel, C. Stoeckl, P. A. Jannimagi, C. Mileham, W. Theobald, J. R. Davies, J. F. Myatt, A. A. Solodov, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Supersonic Propagation of a K-Shell Ionization Front in Metal Targets."

S. J. Padalino, A. Simone, E. Turner, M. K. Ginnane, M. Glisic, B. Kousar, A. Smith, T. C. Sangster, and S. P. Regan, "Time-Resolved Tandem Faraday Cup Development for High-Energy TNSA Particles."

D. N. Polsin, T. R. Boehly, S. Ivancic, M. C. Gregor, C. A. McCoy, K. S. Anderson, D. E. Fratanduono, P. M. Celliers, and D. D. Meyerhofer, "Probing the Release of Shocked Material."

P. B. Radha, M. Hohenberger, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, D. H. Froula, V. N. Goncharov, S. X. Hu, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. Seka, A. Shvydky, S. Skupsky, J. A. Frenje, R. D. Petrasso, H. Sio, A. B. Zylstra, S. N. Dixit, S. Le Pape, J. W. Bates, M. Karasik, and S. P. Obenschein, "Direct Drive: Simulations and Experiments at the National Ignition Facility" (invited).

S. P. Regan, V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, E. M. Campbell, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. T. Michel, J. F. Myatt, P. B. Radha, M. J. Rosenberg, W. Seka, W. T. Shmayda, A. Shvydky, S. Skupsky, A. A. Solodov, C. Stoeckl, W. Theobald, M. D. Wittman, B. Yaakobi, J. D. Zuegel, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, S. P. Obenschain, M. Karasik, A. J. Schmitt, D. D. Meyerhofer, and M. J. Schmitt, "Energy Coupling and Hot-Spot Pressure in Direct-Drive Layered DT Implosions on OMEGA" (invited).

M. J. Rosenberg, A. A. Solodov, W. Seka, R. Epstein, J. F. Myatt, S. P. Regan, M. Hohenberger, T. J. B. Collins, D. P. Turnbull, P. Michel, J. D. Moody, J. E. Ralph, and M. A. Barrios, "Planar Two-Plasmon-Decay Experiments at Polar-Direct-Drive Ignition-Relevant Scale Lengths at the National Ignition Facility."

W. Seka, S. P. Regan, P. B. Radha, M. J. Rosenberg, M. Hohenberger, V. N. Goncharov, J. F. Myatt, J. E. Ralph, J. D.

Moody, and D. P. Turnbull, "Stimulated Raman Scattering as Coronal  $T_e$  Diagnostic for Direct-Drive Experiments on the Current National Ignition Facility."

R. W. Short, A. V. Maximov, J. F. Myatt, W. Seka, and J. Zhang, "Absolute Two-Plasmon Decay and Stimulated Raman Scattering in Direct-Drive Irradiation Geometries."

A. Shvydky, M. Hohenberger, P. B. Radha, M. J. Rosenberg, R. S. Craxton, V. N. Goncharov, J. A. Marozas, F. J. Marshall, P. W. McKenty, S. P. Regan, and T. C. Sangster, "Numerical Simulations of Hydrodynamic Instability Growth and Imprint Experiments at the National Ignition Facility."

A. A. Solodov, M. J. Rosenberg, J. F. Myatt, R. Epstein, S. P. Regan, W. Seka, J. G. Shaw, M. Hohenberger, J. W. Bates, J. E. Moody, J. E. Ralph, D. P. Turnbull, and M. A. Barrios, "Modeling of Two-Plasmon-Decay Experiments at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility."

C. R. Stillman, P. M. Nilson, S. Ivancic, C. Mileham, D. D. Meyerhofer, D. H. Froula, M. E. Martin, and R. A. London, "X-Ray Spectroscopy of Rapidly Heated Buried-Aluminum Layers."

C. Stoeckl, C. J. Forrest, V. Yu. Glebov, T. C. Sangster, W. U. Schröder, and E. Henry, "Spectroscopy of Neutrons Generated Through Nuclear Reactions in Short-Pulse Laser Experiments."

A. Tantillo, M. C. Watson, E. Pogozielski, T. C. Sangster, and S. P. Regan, "Target Chamber Manipulator."

W. Theobald, R. Betti, W. Seka, A. Bose, D. T. Michel, C. Stoeckl, R. Yan, R. Nora, A. Casner, M. Lafon, X. Ribeyre, E. Llor-Aisa, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei, "Hot-Electron Generation in Various Ablator Materials at Shock-Ignition-Relevant Laser Intensities."

H. Wen, A. V. Maximov, R. Yan, C. Ren, J. Li, and J. F. Myatt, "Three-Dimensional Modeling of Laser-Plasma Interactions Near the Quarter-Critical Density in Plasmas."

M. P. Wiesner, R. Ume, J. G. McLean, T. C. Sangster, and S. P. Regan, "Enhancement of Particle Track Etch Rate in CR-39 by UV Exposure."

K. M. Woo, R. Betti, A. Bose, R. Epstein, J. A. Delettrez, K. S. Anderson, R. Yan, P.-Y. Chang, D. Jonathan, and M. Charissis,

“Three-Dimensional Simulations of the Deceleration Phase of Inertial Fusion Implosions Using *DEC3D*.”

R. Yan, R. Betti, J. Sanz, B. Liu, and A. Frank, “Three-Dimensional Single-Mode Nonlinear Ablative Rayleigh–Taylor Instability.”

J. Zhang, J. F. Myatt, R. W. Short, A. V. Maximov, H. X. Vu, D. F. DuBois, and D. A. Russell, “Self-Consistent Calculation of Half-Harmonic Emission Generated by the Two-Plasmon–Decay Instability.”

---

D. R. Harding, B. Chock, W. Wang, Z. Bei, and T. B. Jones, “Electric-Field–Assisted Motion of Low-Surface–Energy Fluid

Droplets on Dielectric Surfaces,” 2015 MRS Fall Meeting, Boston, MA, 29 November–4 December 2015.

---

E. M. Campbell, D. Haberberger, A. Davies, S.-W. Bahk, J. Bromage, J. D. Zuegel, D. H. Froula, J. Sadler, and P. A. Norreys, “Ultrahigh Brightness Laser Development at the Laboratory for Laser Energetics,” George Washington University, Washington, DC, 14 December 2015.

---

R. L. McCrory, “Perspectives on Inertial Fusion Energy,” Fusion Power Associates, Washington, DC, 16–17 December 2015.