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## Publications and Conference Presentations

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### Publications

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D. H. Froula, I. V. Igumenshchev, D. T. Michel, D. H. Edgell, R. Follett, V. Yu. Glebov, V. N. Goncharov, J. Kwiatkowski, F. J. Marshall, P. B. Radha, W. Seka, C. Sorce, S. Stagnitto, C. Stoeckl, and T. C. Sangster, “Increasing Hydrodynamic Efficiency by Reducing Cross-Beam Energy Transfer in Direct-Drive-Implsion Experiments,” *Phys. Rev. Lett.* **108**, 125003 (2012).

M. Guziewicz, W. Słysz, M. Borysiewicz, R. Kruszka, Z. Sidor, M. Juchniewicz, K. Golaszewska, J. Z. Domagała, W. Rządziejewicz, J. Ratajczak, J. Bar, M. Węgrzecki, and R. Sobolewski, “Technology of Ultrathin NbN and NbTiN Films for Superconducting Photodetectors,” *Acta Phys. Pol A* **120**, A76 (2011).

J. F. Myatt, J. Zhang, J. A. Delettrez, A. V. Maximov, R. W. Short, W. Seka, D. H. Edgell, D. F. DuBois, D. A. Russell, and H. X. Vu, “The Dynamics of Hot-Electron Heating in Direct-Drive-Implsion Experiments Caused by Two-Plasmon-Decay Instability,” *Phys. Plasmas* **19**, 022707 (2012).

P. M. Nilson, J. R. Davies, W. Theobald, P. A. Jaanimagi, C. Mileham, R. K. Jungquist, C. Stoeckl, I. A. Begishev, A. A. Solodov, J. F. Myatt, J. D. Zuegel, T. C. Sangster, R. Betti, and D. D. Meyerhofer, “Time-Resolved Measurements of

Hot-Electron Equilibration Dynamics in High-Intensity Laser Interactions with Thin-Foil Solid Targets,” *Phys. Rev. Lett.* **108**, 085002 (2012).

A. V. Okishev, C. Dorrer, Y. Fisher, and M. Pavia, “A Multi-wavelength, Variable-Pulse-Width, Diode-Pumped Laser System,” in *Solid State Lasers XXI: Technology and Devices*, edited by W. A. Clarkson and R. K. Shori (SPIE, Bellingham, WA, 2012), Vol. 8235, Paper 82350Y.

C. Stoeckl, G. Fiksel, D. Guy, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, “A Spherical Crystal Imager for OMEGA EP,” *Rev. Sci. Instrum.* **83**, 033107 (2012).

A. Trajkovska Petkoska and S. D. Jacobs, “The Manufacture, Characterization and Manipulation of Polymer Cholesteric Liquid Crystal Flakes and Their Possible Applications,” *J. Mater. Sci. Eng. A* **2**, 137 (2012).

B. Yaakobi, P.-Y. Chang, A. Solodov, C. Stoeckl, D. H. Edgell, R. S. Craxton, S. X. Hu, J. F. Myatt, F. J. Marshall, W. Seka, and D. H. Froula, “Fast-Electron Generation in Long-Scale-Length Plasmas,” *Phys. Plasmas* **19**, 012704 (2012).

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### Forthcoming Publications

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J. Bromage, C. Dorrer, and R. K. Jungquist, “Temporal Contrast Degradation at the Focus of Ultrafast Pulses from High-Frequency Spectral Phase Modulation,” to be published in the *Journal of the Optical Society of America B*.

T. J. B. Collins, J. A. Marozas, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, V. N. Goncharov, D. R. Harding, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, P. W. McKenty, P. B. Radha, A. Shvydky, S. Skupsky, and J. D. Zuegel,

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

D. H. Froula, B. Yaakobi, S. X. Hu, P.-Y. Chang, R. S. Craxton, D. H. Edgell, R. Follett, D. T. Michel, J. F. Myatt, W. Seka, R. W. Short, A. A. Solodov, and C. Stoeckl, “Saturation of the Two-Plasmon Decay Instability in Long-Scale-Length Plasmas Relevant to Direct-Drive Inertial Confinement Fusion,” to be published in *Physical Review Letters*.

A. J. Harvey-Thompson, S. V. Lebedev, S. Patankar, S. N. Bland, G. Burdiak, J. P. Chittenden, A. Colaitis, P. De Grouchy, H. W. Doyle, G. N. Hall, E. Khoory, M. Hohenberger, L. Pickworth, F. Suzuki-Vidal, R. A. Smith, J. Skidmore, L. Suttle, and G. F. Swadling, "Optical Thomson Scattering Measurements of Plasma Parameters in the Ablation Stage of Wire Array Z Pinches," to be published in *Physical Review Letters*.

A. J. Harvey-Thompson, S. V. Lebedev, S. Patankar, S. N. Bland, G. Burdiak, J. P. Chittenden, A. Colaitis, P. De Grouchy, G. N. Hall, E. Khoory, M. Hohenberger, L. Pickworth, F. Suzuki-Vidal, R. A. Smith, J. Skidmore, L. Suttle, and G. F. Swadling, "Optical Thomson Scattering Measurements of Cylindrical Wire Array Parameters," to be published in *Physics of Plasmas*.

M. Hohenberger, P.-Y. Chang, G. Fiksel, J. P. Knauer, R. Betti, F. J. Marshall, D. D. Meyerhofer, F. H. Séguin, and R. D. Petrasso, "Inertial Confinement Fusion Implosions with Imposed Magnetic Field Compression Using the OMEGA Laser," to be published in *Physics of Plasmas*.

S. X. Hu, G. Fiksel, V. N. Goncharov, S. Skupsky, D. D. Meyerhofer, and V. A. Smalyuk, "Mitigating Laser Imprints in Direct-Drive ICF Implosions with High-Z Dopants," to be published in *Physical Review Letters*.

I. V. Igumenshchev, W. Seka, D. H. Edgell, D. H. Froula, V. N. Goncharov, R. S. Craxton, L. Divol, R. Follett, J. H. Kelly, T. Z. Kosc, D. T. Michel, P. Michel, R. L. McCrory, A. V. Maximov, D. D. Meyerhofer, J. F. Myatt, T. C. Sangster, A. Shvydky, S. Skupsky, and C. Stoeckl, "Crossed-Beam

Energy Transfer in Direct-Drive Implosions," to be published in *Physics of Plasmas*.

I. Iñiguez-de-la-Torre, H. Rodilla, J. Mateos, T. González, H. Irie, and R. Sobolewski, "Monte Carlo Studies of the Intrinsic Time-Domain Response of Nanoscale Three-Branch Junctions," to be published in the *Journal of Applied Physics*.

A. V. Okishev, "Highly Efficient Room-Temperature Yb:YAG Ceramic Laser and Regenerative Amplifier," to be published in *Optics Letters*.

J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, S. Smith, and R. D. Hand "Stress Compensation in Hafnia/Silica Optical Coatings by Inclusion of Alumina Layers," to be published in *Optics Express*.

J. E. Schoenly, W. Seka, J. D. B. Featherstone, and P. Rechmann, "Near-UV Laser Treatment of Extrinsic Dental Enamel Stains," to be published in *Lasers in Surgery and Medicine*.

A. Visco, M. J. Grosskopf, S. H. Glenzer, D. H. Froula, G. Gregori, T. Döppner, F. W. Doss, and R. P. Drake, "Measurement of Radiative Shock Properties by X-Ray Thomson Scattering," to be published in *Physical Review Letters*.

S. K.-H. Wei, S. H. Chen, K. L. Marshall, C. Dorrer, and S. D. Jacobs, "Azimuthal Anchoring Energy and Pixel Resolution in a Photopatterned Liquid Crystal Cell Using Coumarin-Based Photoalignment Layers," to be published in the *Japanese Journal of Applied Physics*.

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**Conference Presentations**

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R. L. McCrory, “LLE’s Perspective on FY13–FY18 Planning,” ICF Executives Meeting, Albuquerque, NM, 18 January 2012.

J. P. Knauer, P.-Y. Chang, M. Hohenberger, G. Fiksel, F. J. Marshall, D. D. Meyerhofer, R. Betti, F. H. Séguin, and R. D. Petrasso, “Compressing Magnetic Fields with High-Energy Lasers.”

A. V. Okishev, C. Dorrer, Y. Fisher, and M. Pavia, “A Multiwavelength, Variable-Pulse-Width, Diode-Pumped Laser System,” Solid State Lasers XXI: Technology and Devices, San Francisco, CA, 21–26 January 2012.

J. D. Hager, J. P. Knauer, V. A. Smalyuk, T. J. B. Collins, J. A. Delettrez, S. X. Hu, D. D. Meyerhofer, and T. C. Sangster, “Rayleigh–Taylor Measurements in Planar Targets with CH and SiO<sub>2</sub> Ablators on OMEGA,” NIF User Group Meeting, Livermore, CA, 12–15 February 2012.

The following presentations were made at the MAGLIF Workshop, Albuquerque, NM, 5–8 February 2012:

G. Fiksel, P.-Y. Chang, M. Hohenberger, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, R. Betti, F. H. Séguin, and R. D. Petrasso, “Effect of Magnetic Fields on Neutron Emission from ICF Implosions.”

J. M. Soures, “High-Energy-Density-Physics Research at the Omega Laser Facility,” 2012 Stewardship Science Academic Alliances Symposium, Washington, DC, 22–23 February 2012.

