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## Publications and Conference Presentations

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### Publications

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S.-W. Bahk, J. Bromage, and J. D. Zuegel, "Offner Radial Group Delay Compensator for Ultra-Broadband Laser Beam Transport," *Opt. Lett.* **39**, 1081 (2014).

C. Dorrer, "Spectral and Temporal Properties of Optical Signals with Multiple Sinusoidal Phase Modulations," *Appl. Opt.* **53**, 1007 (2014).

M. Hohenberger, W. Theobald, S. X. Hu, K. S. Anderson, R. Betti, T. R. Boehly, A. Casner, D. E. Fratanduono, M. Lafon, D. D. Meyerhofer, R. Nora, X. Ribeyre, T. C. Sangster, G. Schurtz, W. Seka, C. Stoeckl, and B. Yaakobi, "Shock-Ignition Relevant Experiments with Planar Targets on OMEGA," *Phys. Plasmas* **21**, 022702 (2014).

O. A. Hurricane, D. A. Callahan, D. T. Casey, P. M. Celliers, C. Cerjan, E. L. Dewald, T. R. Dittrich, T. Döppner, D. E. Hinkel, L. F. Berzak Hopkins, J. L. Kline, S. Le Pape, T. Ma, A. G. MacPhee, J. L. Milovich, A. Pak, H.-S. Park, P. K. Patel, B. A. Remington, J. D. Salmonson, P. T. Springer, and R. Tommasini, "Fuel Gain Exceeding Unity in an Inertially Confined Fusion Implosion," *Nature* **506**, 343 (2014).

R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, J. A. Frenje, D. H. Froula, M. Gatu-Johnson, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, T. J. Kessler, J. P. Knauer, C. K. Li, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, J. F. Myatt, P. M. Nilson, S. J. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, R. W. Short, A. Shvydky, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, and J. D. Zuegel, "Progress Toward Polar-Drive Ignition for the NIF," in *Proceedings of the 24th IAEA Fusion Energy Conference* (IAEA, Vienna, 2013), Paper IFE 2-1.

M. Mikulics, H. Hardtdegen, R. Adam, D. Grützmacher, D. Gregušová, J. Novák, P. Kordoš, Z. Sofer, J. Serafini, J. Zhang, R. Sobolewski, and M. Marso, "Impact of Thermal Annealing on Nonequilibrium Carrier Dynamics in Single-Crystal, Freestanding GaAs Mesosstructures," *Semicond. Sci. Technol.* **29**, 045022 (2014).

A. V. Okishev, "Abnormal Beam-Profile Behavior in a Nd:YAG Ceramic Regenerative Amplifier," in *Solid State Lasers XXIII: Technology and Devices*, edited by W. A. Clarkson and R. K. Shori (SPIE, Bellingham, WA, 2014), Vol. 8959, Paper 89591O.

J. B. Oliver, J. Bromage, C. Smith, D. Sadowski, C. Dorrer, and A. L. Rigatti, "Plasma-Ion-Assisted Coatings for 15 Femtosecond Laser Systems," *Appl. Opt.* **53**, A221 (2014).

S. Papernov, A. A. Kozlov, J. B. Oliver, T. J. Kessler, and B. Marozas, "Near-Ultraviolet Absorption-Annealing Effects in HfO<sub>2</sub> Thin Films Subjected to Continuous-Wave Laser Irradiation at 355 nm," in *Laser-Induced Damage in Optical Materials: 2013*, edited by G. J. Exarhos, V. E. Gruzdev, J. A. Menapace, D. Ristau, and M. J. Soileau (SPIE, Bellingham, WA, 2013), Vol. 8885, Paper 888504.

H. F. Robey, P. M. Celliers, J. D. Moody, J. Sater, T. Parham, B. Kozioziemski, R. Dylla-Spears, J. S. Ross, S. LePape, J. E. Ralph, M. Hohenberger, E. L. Dewald, L. Berzak Hopkins, J. J. Kroll, B. E. Yoxall, A. V. Hamza, T. R. Boehly, A. Nikroo, O. L. Landen, and M. J. Edwards, "Shock Timing Measurements and Analysis in Deuterium-Tritium-Ice Layered Capsule Implosions on NIF," *Phys. Plasmas* **21**, 022703 (2014).

J. E. Schoenly, W. Seka, and P. Rechmann, "Pulsed Laser Ablation of Dental Calculus in the Near Ultraviolet," *J. Biomed. Opt.* **19**, 028003 (2014).

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**Forthcoming Publications**


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D. Eimerl, E. M. Campbell, W. F. Krupke, J. Zweiback, W. L. Kruer, J. Marozas, J. Zuegel, J. Myatt, J. Kelly, D. Froula, and R. L. McCrory, “StarDriver: A Flexible Laser Driver for Inertial Confinement Fusion and High Energy Density Physics,” to be published in the *Journal of Fusion Energy*.

V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, 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. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. Nora, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, C. Sorce, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu Johnson, R. D. Petrasso, and D. T. Casey, “Improving the Hot-Spot Pressure and Demonstrating Ignition Hydrodynamic Equivalence in Cryogenic Deuterium–Tritium Implosions on OMEGA,” to be published in *Physics of Plasmas* (invited).

D. Haberberger, S. Ivancic, S. X. Hu, R. Boni, M. Barczys, R. S. Craxton, and D. H. Froula, “Measurements of the Electron Density Profiles Using an Angular Filter Refractometer,” to be published in *Physics of Plasmas* (invited).

S. X. Hu, L. A. Collins, T. R. Boehly, V. N. Goncharov, and S. Skupsky, “First-Principles Thermal Conductivity of Deuterium for Inertial Confinement Fusion Applications,” to be published in *Physical Review E*.

J. F. Myatt, A. V. Maximov, A. A. Solodov, J. Zhang, R. S. Craxton, C. Ren, R. Yan, I. V. Igumenshchev, S. X. Hu, V. N. Goncharov, W. Seka, D. H. Edgell, D. H. Froula, B. Yaakobi, D. T. Michel, D. F. DuBois, D. A. Russell, D. E. Hinkel, P. Michel, and H. X. Vu, “Multibeam Laser–Plasma Interac-

tions in Inertial Confinement Fusion,” to be published in *Physics of Plasmas* (invited).

T. Nagayama, R. C. Mancini, R. Florido, D. Mayes, R. Tommasini, J. A. Koch, J. A. Delettrez, S. P. Regan, and V. A. Smalyuk, “Direct Asymmetry Measurement of Temperature and Density Spatial Distributions in Inertial Confinement Fusion Plasmas From Pinhole Space-Resolved Spectra,” to be published in *Physics of Plasmas*.

R. Nora, R. Betti, K. S. Anderson, A. Shvydky, A. Bose, K. M. Woo, A. R. Christopherson, J. A. Marozas, T. J. B. Collins, P. B. Radha, S. X. Hu, R. Epstein, F. J. Marshall, T. C. Sangster, and D. D. Meyerhofer, “Theory of Hydro-Equivalent Ignition for Inertial Fusion and Its Applications to OMEGA and the NIF,” to be published in *Physics of Plasmas* (invited).

H. G. Rinderknecht, H. Sio, C. K. Li, A. B. Zylstra, M. J. Rosenberg, P. Amendt, J. Delettrez, C. Bellei, J. A. Frenje, M. Gatu Johnson, F. H. Séguin, R. D. Petrasso, R. Betti, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, O. Landen, V. A. Smalyuk, S. Wilks, A. Greenwood, and A. Nikroo, “First Observations of Nonhydrodynamic Mix at the Fuel–Shell Interface in Shock-Driven Inertial Confinement Implosions,” to be published in *Physical Review Letters*.

W. Seka, J. F. Myatt, R. W. Short, D. H. Froula, J. Katz, V. N. Goncharov, and I. V. Igumenshchev, “Localized Time-Resolved Electron Temperature Measurements Indicate Non-uniformly Driven Two-Plasmon–Decay Instability in Direct-Drive Implosions,” to be published in *Physical Review Letters*.

H. X. Vu, D. F. DuBois, D. A. Russell, J. F. Myatt, and J. Zhang, “Nonlinear Development of the Two-Plasmon–Decay Instability in Three Dimensions,” to be published in *Physics of Plasmas*.

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**Conference Presentations**

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A. V. Okishev, "Abnormal Beam-Profile Behavior in a Nd:YAG Ceramic Regenerative Amplifier," Photonics West, San Francisco, CA, 1–6 February 2014.

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D. H. Barnak, G. Fiksel, H. Chen, P.-Y. Chang, and D. D. Meyerhofer, "Positron Focusing Using Externally Applied Axially Symmetric Magnetic Fields," NIF and JLF User Group Meeting, Livermore, CA, 9–12 February 2014.

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T. Jacobs, M. Mayton, Z. Hobbs, and S. D. Jacobs, "Process Improvements and Future Work for Flint Creek Resources' Cerium Oxide Reclamation Project," The Institute of Optics Industrial Associates Meeting, Rochester, NY, 3 March 2014.

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C. Stoeckl, R. Epstein, G. Fiksel, D. Guy, V. N. Goncharov, D. W. Jacobs-Perkins, R. K. Junquist, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, "Soft X-Ray Backlighting of Cryogenic Implosions Using a Narrowband Crystal Imaging System," COST LMJ Meeting, Bordeaux, France, 5–7 March 2014.