
Publications and Conference Presentations

Publications

- B. Ashe, C. Giacomini, G. Myhre, and A. W. Schmid, "Optimizing a Cleaning Process for Multilayer-Dielectric- (MLD) Diffraction Grating," in *Laser-Induced Damage in Optical Materials: 2007*, edited by G. J. Exarhos, A. H. Guenther, K. L. Lewis, D. Ristau, M. J. Soileau, and C. J. Stolz (SPIE, Bellingham, WA, 2007), Vol. 6720, p. 67200N.
- T. R. Boehly, J. E. Miller, D. D. Meyerhofer, J. H. Eggert, P. M. Celliers, D. G. Hicks, and G. W. Collins, "Measurements of the Release of Alpha Quartz: A New Standard for Impedance-Matching Experiments," in *Shock Compression of Condensed Matter-2007*, edited by M. Elert, M. D. Furnish, R. Chau, N. Holmes, and J. Nguyen (American Institute of Physics, Melville, NY, 2007), Vol. 955, pp. 19–22.
- A. S. Cross, D. Wang, G. Guarino, S. Wu, A. Mycielski, and R. Sobolewski, "Studies of Coherent Acoustic Phonons in CdMnTe Diluted-Magnetic Single Crystals," *J. Phys., Conf. Ser.* **92**, 012015 (2007).
- J. E. DeGroot, A. E. Marino, J. P. Wilson, A. L. Bishop, and S. D. Jacobs, "The Role of Nanodiamonds in the Polishing Zone During Magnetorheological Finishing (MRF)," in *Optical Manufacturing and Testing VII*, edited by J. H. Burge, O. W. Faehnle, and R. Williamson (SPIE, Bellingham, WA, 2007), Vol. 6671, p. 66710Z.
- J. E. DeGroot, A. E. Marino, J. P. Wilson, A. L. Bishop, J. C. Lambropoulos, and S. D. Jacobs, "Removal Rate Model for Magnetorheological Finishing of Glass," *Appl. Opt.* **46**, 7927 (2007).
- C. Dorrer, "Analysis of Pump-Induced Temporal Contrast Degradation in Optical Parametric Chirped-Pulse Amplification," *J. Opt. Soc. Am. B* **24**, 3048 (2007).
- W. Guan, Z. Jiang, and J. R. Marcianite, "Specialty Fibers Shine as High-Power, High-Beam-Quality, Fiber Sources," *Laser Focus World* **43**, 105 (2007).
- W. Guan and J. R. Marcianite, "Pump-Induced, Dual-Frequency Switching in a Short-Cavity, Ytterbium-Doped Fiber Laser," *Opt. Express* **15**, 14,979 (2007).
- C. Kim, J. U. Wallace, A. Trajkovska, J. J. Ou, and S. H. Chen, "Quantitative Assessment of Coumarin-Containing Polymer Film's Capability for Photoalignment of Liquid Crystals," *Macromolecules* **40**, 8924 (2007).
- K. L. Marshall, Z. Culakova, B. Ashe, C. Giacomini, A. L. Rigatti, T. J. Kessler, A. W. Schmid, J. B. Oliver, and A. Kozlov, "Vapor-Phase-Deposited Organosilane Coatings as 'Hardening' Agents for High-Peak-Power Laser Optics," in *Thin-Film Coatings for Optical Applications IV*, edited by M. J. Ellison (SPIE, Bellingham, WA, 2007), Vol. 6674, p. 667407.
- K. L. Marshall, R. Wang, M. Coan, A. G. Noto, K. Leskow, R. Pauszek, and A. Moore, "Using Time-Dependent Density Functional Theory (TDDFT) in the Design and Development of Near-IR Dopants for Liquid Crystal Device Applications," in *Liquid Crystals XI*, edited by I. C. Khoo (SPIE, Bellingham, WA, 2007), Vol. 6654, p. 66540F.
- D. N. Maywar, K. P. Solomon, and G. P. Agrawal, "Remote Optical Control of an Optical Flip-Flop," *Opt. Lett.* **32**, 3260 (2007).
- R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, R. L. Keck, J. D. Kilkenny, J. P. Knauer, C. K. Li, J. Marcianite, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, "Progress in Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," *Eur. Phys. J. D* **44**, 233 (2007).

- C. Miao, K. M. Bristol, A. E. Marino, S. N. Shafir, J. E. DeGroot, and S. D. Jacobs, "Magnetorheological Fluid Template for Basic Studies of Mechanical-Chemical Effects During Polishing," in *Optical Manufacturing and Testing VII*, edited by J. H. Burge, O. W. Faehnle, and R. Williamson (SPIE, Bellingham, WA, 2007), Vol. 6671, p. 667110.
- J. E. Miller, T. R. Boehly, D. D. Meyerhofer, and J. H. Eggert, "Equation-of-State Measurements in Ta₂O₅ Aerogel," in *Shock Compression of Condensed Matter-2007*, edited by M. Elert, M. D. Furnish, R. Chau, N. Holmes, and J. Nguyen (American Institute of Physics, Melville, NY, 2007), Vol. 955, pp. 71-74.
- A. V. Okishev, C. Dorrer, V. I. Smirnov, L. B. Glebov, and J. D. Zuegel, "ASE Suppression in a Diode-Pumped Nd:YLF Regenerative Amplifier Using a Volume Bragg Grating," in *Frontiers in Optics 2007/Laser Science XXIII/Organic Materials and Devices for Displays and Energy Conversion* (Optical Society of America, Washington, DC, 2007), Paper LTuB4.
- S. Papernov, A. W. Schmid, J. B. Oliver, and A. L. Rigatti, "Damage Thresholds and Morphology of the Front- and Back-Irradiated SiO₂ Thin Films Containing Gold Nanoparticles as Artificial Absorbing Defects," in *Laser-Induced Damage in Optical Materials: 2007*, edited by G. J. Exarhos, A. H. Guenther, K. L. Lewis, D. Ristau, M. J. Soileau, and C. J. Stolz (SPIE, Bellingham, WA, 2007), Vol. 6720, p. 67200G.
- T. C. Sangster, R. L. McCrory, V. N. Goncharov, D. R. Harding, S. J. Loucks, P. W. McKenty, D. D. Meyerhofer, S. Skupsky, B. Yaakobi, B. J. MacGowan, L. J. Atherton, B. A. Hammel, J. D. Lindl, E. I. Moses, J. L. Porter, M. E. Cuneo, M. K. Matzen, C. W. Barnes, J. C. Fernandez, D. C. Wilson, J. D. Kilkenny, T. P. Bernat, A. Nikroo, B. G. Logan, S. Yu, R. D. Petrasso, J. D. Sethian, and S. Obenschain, "Overview of Inertial Fusion Research in the United States," *Nucl. Fusion* **47**, S686 (2007).
- H. Sawada, S. P. Regan, D. D. Meyerhofer, I. V. Igumenshchev, V. N. Goncharov, T. R. Boehly, R. Epstein, T. C. Sangster, V. A. Smalyuk, B. Yaakobi, G. Gregori, S. H. Glenzer, and O. L. Landen, "Diagnosing Direct-Drive, Shock-Heated, and Compressed Plastic Planar Foils with Noncollective Spectrally Resolved X-Ray Scattering," *Phys. Plasmas* **14**, 122703 (2007).
- S. N. Shafir, J. C. Lambropoulos, and S. D. Jacobs, "MRF Spotting Technique for Studying Subsurface Damage in Deterministic Microground Polycrystalline Alumina," in *Optical Manufacturing and Testing VII*, edited by J. H. Burge, O. W. Faehnle, and R. Williamson (SPIE, Bellingham, WA, 2007), Vol. 6671, p. 66710J.
- S. N. Shafir, J. C. Lambropoulos, and S. D. Jacobs, "Toward Magnetorheological Finishing of Magnetic Materials," *J. Manuf. Sci. Eng.* **129**, 961 (2007).
- C. Stoeckl, T. R. Boehly, J. A. Delettrez, S. P. Hatchett, J. A. Frenje, V. Yu. Glebov, C. K. Li, J. E. Miller, R. D. Petrasso, F. H. Séguin, V. A. Smalyuk, R. B. Stephens, W. Theobald, B. Yaakobi, and T. C. Sangster, "Hydrodynamics Studies of Direct-Drive Cone-in-Shell, Fast-Ignitor Targets on OMEGA," *Phys. Plasmas* **14**, 112702 (2007).
- A. Trajkovska, C. Kim, J. U. Wallace, and S. H. Chen, "Photoalignment of Monodisperse Glassy-Nematic Oligofluorenes," in *Liquid Crystals XI*, edited by I. C. Khoo (SPIE, Bellingham, WA, 2007), Vol. 6654, p. 665409.
- J. U. Wallace, R. H. Young, C. W. Tang, and S. H. Chen, "Charge-Retraction Time-of-Flight Measurement for Organic Charge Transport Materials," *Appl. Phys. Lett.* **91**, 152104 (2007).
- L. Welser-Sherrill, R. C. Mancini, J. A. Koch, N. Izumi, R. Tommasini, S. W. Haan, D. A. Haynes, I. E. Golovkin, J. J. MacFarlane, J. A. Delettrez, F. J. Marshall, S. P. Regan, V. A. Smalyuk, and G. Kyrala, "Spectroscopic Determination of Temperature and Density Spatial Profiles and Mix in Indirect-Drive Implosion Cores," *Phys. Rev. E* **76**, 056403 (2007).
- S. Wu, J. Zhang, A. Belousov, J. Karpinski, and R. Sobolewski, "Ultra-Long-Lived Coherent Acoustic Phonons in GaN Single Crystals," *J. Phys., Conf. Ser.* **92**, 012021 (2007).

Forthcoming Publications

- A. M. Cok, R. S. Craxton, and P. W. McKenty, “Polar-Drive Designs for Optimizing Neutron Yields on the National Ignition Facility,” to be published in *Physics of Plasmas*.
- C. Dorrer and J. Bromage, “Impact of High-Frequency, Spectral Phase Modulation on the Temporal Profile of Short Optical Pulses,” to be published in *Optics Express*.
- C. Dorrer and I. Kang, “Linear Self-Referencing Techniques for Short Optical Pulse Characterization,” to be published in the *Journal of the Optical Society of America B* (invited).
- M. C. Ghilea, T. C. Sangster, D. D. Meyerhofer, R. A. Lerche, and L. Disdier, “Aperture Tolerances for Neutron Imaging Systems in Inertial Confinement Fusion,” to be published in *Review of Scientific Instruments*.
- V. N. Goncharov, “Ablative Richtmyer–Meshkov Instability: Theory and Experimental Results,” to be published in the *Proceedings of Scottish Summer School*.
- V. N. Goncharov, “Direct-Drive Inertial Fusion: Basic Concepts and Ignition Target Designing,” to be published in the *Proceedings of Scottish Summer School*.
- V. N. Goncharov, T. C. Sangster, P. B. Radha, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, V. Yu. Glebov, S. X. Hu, I. V. Igumenshchev, R. Janezic, S. J. Loucks, J. R. Marciante, J. A. Marozas, F. J. Marshall, D. N. Maywar, J. P. Knauer, P. W. McKenty, S. P. Regan, R. G. Roides, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. Betti, R. L. McCrory, D. D. Meyerhofer, D. Shvarts, J. A. Frenje, R. D. Petrasso, and C. K. Li, “Performance of Direct-Drive Cryogenic Targets on OMEGA,” to be published in *Physics of Plasmas* (invited).
- O. V. Gotchev, N. W. Jang, J. P. Knauer, M. D. Barbero, R. Betti, C. K. Li, and R. D. Petrasso, “Magneto-Inertial Approach to Direct-Drive Laser Fusion,” to be published in the *Journal of Fusion Energy*.
- J. S. Green, V. M. Ovchinnikov, K. U. Akli, R. G. Evans, H. Azechi, F. N. Beg, C. Bellei, R. R. Freeman, H. Habara, R. Heathcote, M. H. Key, J. A. King, K. L. Lancaster, N. C. Lopes, T. Ma, A. J. MacKinnon, K. M. Markey, A. McPhee, Z. Najmudin, P. Nilson, R. Onofrei, R. Stephens, K. Takeda, K. A. Tanaka, W. Theobald, T. Tanimoto, J. Waugh, L. Van Woerkom, N. C. Woolsey, M. Zepf, J. R. Davies, and P. A. Norreys, “The Effect of Laser Intensity on Fast-Electron-Beam Divergence in Solid-Density Plasmas,” to be published in *Physical Review Letters*.
- I. V. Igumenshchev, “Magnetically Arrested Disks and Origin of Poynting Jets: Numerical Study,” to be published in the *Astrophysical Journal*.
- Z. Jiang and J. R. Marciante, “Impact of Transverse Spatial-Hole Burning on Beam Quality in Large-Mode-Area Yb-Doped Fibers,” to be published in the *Journal of the Optical Society of America B*.
- I. Kang, C. Dorrer, L. Zhang, M. Dinu, M. Rasras, L. Buhl, S. Cabot, A. Bhardwaj, X. Liu, M. Cappuzzo, L. Gomez, A. Wong-Foy, Y. F. Chen, N. K. Dutta, S. S. Patel, D. T. Neilson, C. R. Giles, A. Piccirilli, and J. Jaques, “Characterization of the Dynamical Processes in All-Optical Signal Processing Using Semiconductor Optical Amplifiers,” to be published in *IEEE Journal of Selected Topics in Quantum Electronics* (invited).
- R. L. McCrory, D. D. Meyerhofer, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. W. Jacobs-Perkins, J. P. Knauer, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, “Progress in Direct-Drive Inertial Confinement Fusion Research,” to be published in *Physics of Plasmas* (review talk).
- P. Nilson, W. Theobald, J. Myatt, C. Stoeckl, C. Mileham, M. Storm, O. V. Gotchev, I. A. Begishev, J. Brown, J. D. Zuegel, R. Betti, D. D. Meyerhofer, and T. C. Sangster, “High-Intensity Laser–Plasma Interactions in the Refluxing Limit,” to be published in *Physics of Plasmas* (invited).
- A. Simon, “An Alternative Analysis of Some Recent Diffusion Experiments on the LAPD Device,” to be published in *Physics of Plasmas*.
- A. Simon, “Comment on ‘Two-Dimensional Equilibrium of a Low Temperature Magnetized Plasma’ [*Plasma Sources Science and Technology* **14**, 152–157 (2005)],” to be published in *Plasma Sources Science and Technology*.

W. Theobald, R. Betti, C. Stoeckl, K. S. Anderson, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, D. Shvarts, V. A. Smalyuk, A. A. Solodov, B. Yaakobi, C. D. Zhou, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, and L. J. Perkins, "Initial Experiments of the Shock-Ignition ICF Concept," to be published in *Physics of Plasmas* (invited).

A. Trajkovska-Petkoska and S. D. Jacobs, "Effect of Different Dopants on Polymer Cholesteric Liquid Crystals," to be published in *Molecular Crystals and Liquid Crystals*.

A. Trajkovska-Petkoska, T. Z. Kosc, K. L. Marshall, K. Hasman, and S. D. Jacobs, "Motion of Doped-Polymer-Cholesteric Liquid Crystal Flakes in a Direct-Current Electric Field," to be published in the *Journal of Applied Physics*.

Conference Presentations

T. C. Sangster, R. Betti, K. S. Anderson, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, D. Shvarts, V. A. Smalyuk, R. B. Stephens, C. Stoeckl, B. Yaakobi, C. D. Zhou, J. A. Frenje, C. K. Li, F. H. Séguin, and R. D. Petrasso, "Fast-Ignition Research at the Laboratory for Laser Energetics," 1st International Conference on Ultra-Intense Laser Interaction Sciences, Bordeaux, France, 1–5 October 2007.

B. Ashe, K. L. Marshall, D. Mastrosimone, and C. McAtee, "Minimizing Contamination to Multilayer Dielectric Diffraction Gratings Within a Large Vacuum System," 54th AVS International Symposium, Seattle, WA, 14–19 October 2007.

The following presentations were made at the 6th International Laser Operations Workshop, Bordeaux, France, 9–11 October 2007:

J. L. Edwards, "Accessing Information and Maintaining Configuration Control of the OMEGA EP Laser System."

J. R. Marciante, W. R. Donaldson, and R. G. Roides, "Enhanced-Dynamic-Range, Single-Shot Measurement of Nanosecond Pulses via Optical Replication," IEEE/LEOS, Lake Buena Vista, FL, 21–25 October 2007.

R. Janezic, L. M. Elasky, D. R. Harding, and S. J. Loucks, "Cryogenic DT Target Operations in the LLE OMEGA Facility."

T. J. Kessler, "Laser Development at the Laboratory for Laser Energetics," 10th Annual Directed Energy Symposium, Huntsville, AL, 5–8 November 2007.

B. E. Kruschwitz, L. J. Waxer, and J. H. Kelly, "OMEGA EP Activation Status."

The following presentations were made at the 49th Annual Meeting of the APS Division of Plasma Physics, Orlando, FL, 12–16 November 2007:

S. J. Loucks, "LLE Overviews."

K. S. Anderson, R. Betti, I. V. Igumenshchev, P. W. McKenty, P. B. Radha, W. Theobald, C. Stoeckl, and M. M. Marinak, "Direct-Drive Fuel-Assembly Simulations of Fast-Ignition Cone-in-Shell Implosions."

S. F. B. Morse, "Availability and Effectiveness Planning on OMEGA EP."

G. Pien, "Multi-Facility Diagnostic Development."

R. Betti and C. D. Zhou, "Measurable Lawson Criterion and Hydro-Equivalent Curves for Inertial Confinement Fusion."

A. L. Rigatti, "Operational Issues Related to OMEGA and OMEGA EP Optics."

T. R. Boehly, M. A. Barrios, D. E. Fratanduono, T. C. Sangster, D. D. Meyerhofer, P. M. Celliers, D. Munro, G. W. Collins, O. L. Landen, and R. E. Olson, "Development of Shock-Timing Techniques for the National Ignition Facility."

- M. Braaten, C. Brown, S. Padalino, V. Glebov, T. C. Sangster, and T. Duffy, "Measuring Positron Annihilation in Na(Tl) Detectors as the Final Stage in a Carbon Diagnostic."
- D. T. Casey, J. A. Frenje, S. C. McDuffee, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, and T. C. Sangster, "The CR-39 Coincidence Counting Technique for Enhanced Signal-to-Background in a Large Range of Charged-Particle Measurements on OMEGA and the NIF."
- T. J. B. Collins, J. A. Marozas, P. W. McKenty, P. B. Radha, S. Skupsky, and J. D. Zuegel, "Single-Beam Smoothing Requirements for Wetted-Foam, Direct-Drive NIF Ignition Target Designs."
- J. H. Cooley, L. Welser-Sherrill, D. C. Wilson, H. W. Herrmann, J. M. Mack, S. C. Evans, T. J. Sedillo, C. J. Horsfield, D. W. Drew, E. K. Miller, and V. Yu. Glebov, "Evaluation and Modeling of Neutron Reaction Histories Using a Directly Driven Capsule with Two Laser Pulses."
- R. S. Craxton, A. M. Cok, and P. W. McKenty, "Initial Polar-Direct-Drive Designs to Optimize Neutron Yields on the NIF."
- M. Cummings, K. Donovan, S. Padalino, V. Glebov, and T. C. Sangster, "Elemental Analysis of Carbon Disks Using Proton Induced X-Ray Emission."
- J. A. Delettrez, D. Shvarts, P. B. Radha, C. Stoeckl, V. A. Smalyuk, A. V. Maximov, T. C. Sangster, R. D. Petrasso, and J. A. Frenje, "Transport of Energetic Electrons Produced from Two-Plasmon Decay in the 1-D Hydrodynamic Code *LILAC*."
- D. H. Edgell, W. Seka, J. A. Delettrez, R. S. Craxton, V. N. Goncharov, I. V. Igumenshchev, J. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, and R. E. Bahr, "Scattered-Laser-Light Spectroscopy in Direct-Drive Implosion Experiments."
- R. Epstein, J. A. Delettrez, V. N. Goncharov, J. P. Knauer, P. W. McKenty, F. J. Marshall, D. Li, P. B. Radha, S. P. Regan, H. Sawada, and B. Yaakobi, "Radiative Transport Modeling Relevant to Cryogenic Implosion Simulation and Diagnosis."
- S. H. Fay, C. M. Kuhn, E. E. Smith, S. L. Stephenson, T. C. Sangster, V. Glebov, and S. J. Padalino, "Modeling a Carbon Diagnostic System Using MCNPX."
- D. E. Fratanduono, M. A. Barrios, T. R. Boehly, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, S. Wilks, and J. E. Miller, "Nonequilibrium Conditions in a Shock Front."
- J. A. Frenje, D. T. Casey, C. K. Li, J. R. Rygg, F. H. Séguin, R. D. Petrasso, V. Yu. Glebov, D. D. Meyerhofer, and T. C. Sangster, "First Measurements of the Neutron Spectrum Using the Magnetic Recoil Spectrometer (MRS) at OMEGA."
- M. Ghilea, D. D. Meyerhofer, T. C. Sangster, D. J. Lonobile, A. Dillenbeck, R. A. Lerche, and L. Disdier, "First Tests on OMEGA of a Bubble Chamber for Neutron Detection."
- V. Yu. Glebov, T. C. Sangster, C. Stoeckl, S. Roberts, W. Bittle, J. L. Bourgade, J. L. Leray, and R. A. Lerche, "Neutron-Induced Signal Measurements in Coaxial Cables on OMEGA."
- V. N. Goncharov, T. C. Sangster, P. B. Radha, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, V. Yu. Glebov, S. X. Hu, I. V. Igumenshchev, R. Janezic, S. J. Loucks, J. R. Marciante, J. A. Marozas, F. J. Marshall, D. N. Maywar, J. P. Knauer, P. W. McKenty, S. P. Regan, R. G. Roides, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. Betti, R. L. McCrory, D. D. Meyerhofer, D. Shvarts, J. A. Frenje, R. D. Petrasso, and C. K. Li, "Performance of Direct-Drive Cryogenic Targets on OMEGA" (invited).
- O. V. Gotchev, P. Y. Chang, N. W. Jang, J. P. Knauer, D. D. Meyerhofer, R. Betti, C. K. Li, J. A. Frenje, F. H. Séguin, and R. D. Petrasso, "Laser-Driven Magnetic-Flux Compression Experiments on the OMEGA Laser."
- D. R. Harding, D. H. Edgell, and L. M. Elasky, "Forming Cryogenic DT Targets for OMEGA."
- S. X. Hu, V. A. Smalyuk, V. N. Goncharov, P. B. Radha, J. P. Knauer, T. C. Sangster, D. D. Meyerhofer, I. V. Igumenshchev, J. A. Marozas, and S. Skupsky, "Validation of Thermal Transport Modeling in Direct-Drive Targets Using Planar-Foil Experiments on OMEGA."
- I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, M. J. Bonino, P. W. McKenty, D. D. Meyerhofer, and T. C. Sangster, "The Effect of Target Mounts in Direct-Drive Implosions on OMEGA."
- J. P. Knauer, P. B. Radha, V. N. Goncharov, I. V. Igumenshchev, R. Betti, R. Epstein, F. J. Marshall, S. P. Regan, V. A. Smalyuk,

D. D. Meyerhofer, and S. Skupsky, "Rayleigh–Taylor Growth and Spherical Compression Measurements of Silicon-Doped Ablators."

G. A. Kyrala, A. Seifter, N. M. Hoffman, D. C. Wilson, S. R. Goldman, N. D. Delamater, V. Glebov, C. Stoeckl, F. Marshall, C. K. Li, and J. Frenje, "Using Beam Pushing and Pointing to Control Indirect Drive Implosion Symmetry."

D. Li, V. N. Goncharov, I. V. Igumenshchev, and S. Skupsky, "Modeling Ion Heat Transport in ICF Targets."

G. Li, C. Ren, R. Yan, V. N. Goncharov, T. L. Wang, W. B. Mori, and J. Tonge, "Laser Channeling in Millimeter-Scale Underdense Plasmas of Fast Ignition."

J. Lundgren, B. Esham, S. J. Padalino, T. C. Sangster, and V. Glebov, "VELoCiRaPTORS."

J. Mack, C. Young, S. Evans, H. Herrmann, M. Moran, R. Malone, and V. Glebov, "NIF Conceptual Design Studies of Bang Time Diagnostics Using d-t Fusion Gamma Rays."

J. A. Marozas, T. J. B. Collins, C. Dorrer, and J. D. Zuegel, "Alternative Laser-Speckle-Smoothing Schemes for the NIF."

F. J. Marshall, J. P. Knauer, T. C. Sangster, J. A. Delettrez, P. W. McKenty, R. Epstein, V. N. Goncharov, and B. Yaakobi, "X-Ray Spectral Measurements of Cryogenic Capsules Imploded by OMEGA."

A. V. Maximov, J. Myatt, R. W. Short, W. Seka, and C. Stoeckl, "Two-Plasmon-Decay Instability Driven by Incoherent Laser Irradiation."

R. L. McCrory, D. D. Meyerhofer, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. W. Jacobs-Perkins, J. P. Knauer, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Progress in Direct-Drive Inertial Confinement Fusion Research" (review talk).

P. W. McKenty, A. Shvydky, T. J. B. Collins, J. A. Marozas, S. Skupsky, D. Keller, D. D. Meyerhofer, and R. L. McCrory, "Multidimensional Numerical Investigation of NIF Saturn PDD Designs with 3-D Laser Ray Tracing."

D. D. Meyerhofer, J. H. Kelly, S. J. Loucks, R. L. McCrory, S. F. B. Morse, and C. Stoeckl, "OMEGA EP: Status and Use Planning."

J. Myatt, A. V. Maximov, R. W. Short, and D. D. Meyerhofer, "Design of a Positron–Electron Pair-Plasma Production Experiment on OMEGA EP."

P. Nilson, W. Theobald, J. Myatt, C. Stoeckl, C. Mileham, M. Storm, O. V. Gotchev, I. A. Begishev, J. Brown, J. D. Zuegel, R. Betti, D. D. Meyerhofer, and T. C. Sangster, "High-Intensity Laser–Plasma Interactions in the Refluxing Limit" (invited).

S. Padalino, "Plasma Physics Research at an Undergraduate Institution."

E. Pogozeleski, B. See, C. Kieffer, W. Becker, S. Padalino, and C. Sangster, "Impact of Cryogenic Temperatures on the Mechanical Properties of *Steatoda Triangulosa* Spider Silk."

P. B. Radha, J. P. Knauer, T. C. Sangster, V. N. Goncharov, I. V. Igumenshchev, R. Betti, R. Epstein, D. D. Meyerhofer, S. P. Regan, V. A. Smalyuk, S. Skupsky, J. A. Frenje, C. K. Li, and R. D. Petrasso, "Using Doped Ablators on OMEGA to Achieve a Low-Adiabatic Cryogenic Implosion at High Intensities."

S. P. Regan, T. C. Sangster, D. D. Meyerhofer, W. Seka, B. Yaakobi, R. L. McCrory, C. Stoeckl, V. Yu. Glebov, N. B. Meezan, B. Kruer, L. J. Suter, E. A. Williams, O. S. Jones, D. A. Callahan, M. D. Rosen, O. L. Landen, S. H. Glenzer, C. Sorce, and B. J. MacGowan, "Hohlraum Hot-Electron Production."

T. C. Sangster, V. N. Goncharov, V. A. Smalyuk, R. Betti, D. Shvarts, P. B. Radha, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, F. J. Marshall, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "High-Areal-Density Cryogenic D₂ Implosions on OMEGA."

H. Sawada, S. P. Regan, P. B. Radha, R. Epstein, V. N. Goncharov, D. D. Meyerhofer, V. A. Smalyuk, T. C. Sangster, B. Yaakobi, and R. C. Mancini, "Investigation of Shock Heating and Heat-Front Penetration in Direct-Drive Targets Using Absorption Spectroscopy."

- W. Seka, D. H. Edgell, J. P. Knauer, J. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, R. E. Bahr, R. S. Craxton, J. A. Delettrez, V. N. Goncharov, I. V. Igumenshchev, and D. Shvarts, "Time-Resolved Absorption in Cryogenic and Room-Temperature, Direct-Drive Implosions" (invited).
- R. W. Short and J. Myatt, "Kinetic and Fluid Models of the Filamentation Instability of Relativistic Electron Beams for Fast-Ignition Conditions."
- A. Shvydky, I. V. Igumenshchev, D. Keller, J. A. Marozas, P. W. McKenty, and S. Skupsky, "Irradiation Uniformity in Direct-Drive Simulations Using 3-D Ray Trace."
- S. Skupsky, V. N. Goncharov, and D. Li, "Nonlocal Ion-Heat Transport and Viscosity in ICF Implosions Using a Quasi-Monte Carlo Approach."
- V. A. Smalyuk, J. A. Delettrez, V. N. Goncharov, S. X. Hu, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, D. Shvarts, C. Stoeckl, B. Yaakobi, J. A. Frenje, and R. D. Petrasso, "Effects of Preheating on Compression and Rayleigh–Taylor Growth in Planar Plastic Targets on OMEGA."
- A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. Myatt, J. A. Delettrez, and S. Skupsky, "Integrated Simulation of Fast-Ignition ICF."
- C. Stoeckl, W. Theobald, P. A. Jaanimagi, P. Nilson, M. Storm, J. A. Delettrez, R. Epstein, T. C. Sangster, D. Hey, A. J. MacKinnon, H.-S. Park, P. K. Patel, R. Shepherd, J. Green, K. L. Lancaster, and P. A. Norreys, "High-Brightness ~keV Source Development."
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- J. Strain, G. Rawcliffe, J. Katz, K. Fletcher, J. Frenje, and S. MacMullin, "Preparation of Deuterated Polymer Targets for the OMEGA Magnetic Recoil Spectrometer."
- S. Sublett, J. P. Knauer, D. D. Meyerhofer, and A. Frank, "OMEGA Laser-Driven Hydrodynamic Plasma Jet Experiments with Relevance to Astrophysics."
- W. Theobald, R. Betti, C. Stoeckl, K. S. Anderson, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, D. Shvarts, V. A. Smalyuk, A. A. Solodov, B. Yaakobi, C. D. Zhou, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, and L. J. Perkins, "Initial Experiments of the Shock-Ignition ICF Concept" (invited).
- G. T. Young, S. M. Hupcher, C. G. Freeman, M. A. Stoyer, and T. C. Sangster, "Noble Gas Analysis for the OMEGA Gas Sampling System."
- C. D. Zhou and R. Betti, "Hydrodynamic Relations for Direct-Drive, Fast-Ignition Inertial Confinement Fusion Implosions."
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