PUBLICATIONS AND CONFERENCE PRESENTATIONS

Publications

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J. Delettrez, R. Epstein, D. K. Bradley, P. A. Jaanimagi, R. C. Mancini, and C. F. Hooper, "Hydrodynamic Simulations with Non-LTE Atomic Physics of High-Density Implosions of Argon-Filled Polymer Shell Targets," in *Radiative Properties of Hot Dense Matter, Proceedings of the 4th International Workshop*, edited by W. Goldstein, C. Hooper, J. Gauthier, J. Seely, and R. Lee (World Scientific, NJ, 1991), pp. 309–320.

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Forthcoming Publications

S. Alexandrou, R. Sobolewski, and T. Y. Hsiang, "Bend-Induced Even and Odd Modes in Picosecond Electrical Transients Propagated on a Coplanar Waveguide," to be published in Applied Physics Letters.

T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M Soures, and C. P. Verdon, "The Upgrade to the OMEGA Laser System," to be published in the *Proceedings of SPIE's OE/LASE*, Los Angeles, CA, 20–25 January 1992.

P. C. Cheng, H. Kim, and T. H. Lin, "The Study of Silica Deposition in the Leaf Blade of Zea mays L. by X-Ray Contact Microradiography and Confocal Microscopy," to be published in *X-Ray Microscopy III*.

W. R. Donaldson and L. Mu, "The Effects of Doping on Photoconductive Switches as Determined by Electro-Optic Imaging," to be published in the *Proceedings of SPIE's OE/LASE*, Los Angeles, CA, 20–25 January 1992.

Conference Presentations

R. L. McCrory, "A Problem of Target Illumination Homogeneity in Laser Fusion," presented at the XIV International Conference on Coherent and Nonlinear Optics, Leningrad, USSR, 24–27 September 1991.

J. P. Chu, G. G. Banas, H. E. Elsayed-Ali, J. M. Rigsbee, and F. V. Lawrence, Jr., "Laser-Shock Hardening of Hadfield Steel," presented at the TMS Fall Meeting, The American Institute of Mining, Metallurgical, and Petroleum Engineering, Cincinnati, OH, October 1991.

T. Gong and P. M. Fauchet, "Femtosecond Nonlinearities and Hot-Carrier Dynamics in GaAs," presented at the VIIth International Symposium on Ultrafast Processes in Spectroscopy, Bayreuth, Germany, 7–11 October 1991 (invited paper).

M. J. Cumbo, A. Lindquist, S. B. Ng, T. Rich, Y. Sabharwal, and S. D. Jacobs, "Grinding of Optical Glass with Loose Polycrystalline Synthetic Diamond Abrasives," presented at the American Society for Precision Engineering Annual Meeting, Santa Fe, NM, 13–18 October 1991.

The following presentations were made at the 21st ECLIM, Warsaw, Poland, 21–25 October 1991:

R. L. McCrory, "Direct-Drive Implosion Experiments for Laser Fusion on OMEGA and the OMEGA Upgrade."

W. Seka, R. S. Craxton, R. Bahr, D. L. Brown, A. Simon, R. L. Short, and L. Zheng, "Nonlinear Interaction Processes in Long-Scale-Length Plasma Experiments on OMEGA."

J. M. Soures, R. L. McCrory, C. P. Verdon, T. R. Boehly, R. S. Craxton, S. D. Jacobs, J. H. Kelly, T. J. Kessler, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, W. Seka, R. W. Short, M. D. Skeldon, and S. Skupsky, "Uniform Irradiation Laser Facility for Short-Wavelength Direct-Drive Target Experiments."

R. Sobolewski, "Ultrafast Superconducting Electronics," presented at the Second Mideuropean Symposium and Exhibition on Semiconductor Equipment and Technology, Warsaw, Poland, 22–24 October 1991 (invited lecture).

The following presentations were made at the 23rd Boulder Damage Symposium on Optical Materials for High Power Lasers, Boulder, CO, 23–25 October 1991:

S. Papernov, L. Pedulla, V. Zandy, A. W. Schmid, and P. Resnick, "Perfluorinated Copolymer Coatings for High-Power Laser Applications."

L. J. Shaw-Klein, S. D. Jacobs, S. J. Burns, and J. C. Lambropoulos, "Microstructural Control of Thin-Film Thermal Conductivity."

D. J. Smith, A. W. Schmid, M. S. Jin, S. Papernov, and Z. R. Chrzan, "Development of High Reflector Coatings at 351 nm for the OMEGA Upgrade Laser."

The following presentations were made at the Optical Society of America 1991 Annual Meeting, San Jose, CA, 3–8 November 1991:

J. H. Kelly, "Instrumentation Integration in Large Systems: the OMEGA Laser Upgrade at the University of Rochester as an Example," (invited talk).

A. W. Schmid, M. S. Kim, K. Cerqua, and W. C. LaCourse, "Self-Trapped Exciton Enhanced Photostructural Transformation in AsSe Fiber Glass."

D. J. Smith, M. S. Jin, Z. R. Chrzan, A. W. Schmid, and S. Papernov, "Improved Laser-Damage Thresholds Using Ion-Assisted Deposition."

The following presentations were made at the Thirty-Third Annual Meeting of the American Physical Society, Division of Plasma Physics, Tampa, FL, 4–8 November 1991:

R. E. Bahr, W. Seka, R. S. Craxton, and A. Simon, "Stimulated Raman Scattering in Long-Scale Length Plasma Experiments on OMEGA."

T. R. Boehly, R. S. Craxton, R. J. Hutchison, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, "The Upgrade to the OMEGA Laser System."

D. K. Bradley, P. W. McKenty, and C. P. Verdon, "Experimental Determination of Low Order Legendre Mode Growth Rates in Imploding ICF Targets."

D. L. Brown, R. E. Bahr, and W. Seka, "Interpretation of Features in Short-Pulse Probe Images of Long-Scale-Length Plasmas on OMEGA."

X. D. Cao, C. J. McKinstrie, and D. A. Russell, "Novel Aspects of the Nonlinear Focusing of Light Waves."

R. S. Craxton, W. Seka, and D. L. Brown, "Optical Diagnosis of Long-Scale-Length Plasmas on the OMEGA Upgrade."

J. A. Delettrez, D. K. Bradley, and C. P. Verdon, "Modeling Burnthrough Experiments with an Interactive Mix Model in *LILAC*."

E. M. Epperlein, "Fokker-Planck Simulations of Laser Filamentation in Plasmas."

E. M. Epperlein and R. W. Short, "A Practical Nonlocal Model for Electron Heat Transport in Laser Plasmas."

R. Epstein, C. T. Cotton, T. J. Kessler, and S. Skupsky, "The Effects of Phase Aberration on the Irradiation Uniformity and Focusability of Phase-Covered Laser Beams."

P. A. Jaanimagi, D. K. Bradley, and J. A. Delettrez, "X-Ray Emission in the Post-Stagnation Phase."

J. H. Kelly, P. W. McKenty, R. W. Short, and S. Skupsky, "Numerical Investigation of Self-Focusing of Broad Bandwidth Laser Light."

T. J. Kessler, T. R. Boehly, J. H. Kelly, S. A. Kumpan, S. A. Letzring, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, "Design Improvements for the OMEGA Upgrade Laser System."

R. L. Kremens and M. A. Russotto, "Wide Dynamic Range Measurement of Low Neutron Yields from Inertial Confinement Fusion Experiments Using Scintillator-Photomultiplier Detectors."

F. J. Marshall, J. A. Delettrez, C. P. Verdon, R. Epstein, and B. Yaakobi, "Absorption Spectroscopy of Imploding Hollow Shell Targets on OMEGA."

P. W. McKenty, C. P. Verdon, S. Skupsky, D. K. Bradley, P. A. Jaanimagi, and J. P. Knauer, "ICF-Target Performance Under the Influence of Low-Order Deliberately Applied Illumination Nonuniformities."

C. J. McKinstrie and M. Yu, "Momentum Conservation in Stimulated Raman Scattering."

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W. Seka, "Long-Scale-Length Laser-Plasma Experiments Using the OMEGA Laser Facility."

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R. W. Short, "The Filamentation Instability in the Presence of Multiple Pump Waves."

A. Simon, "Brillouin Scattering in the Presence of Strong Ion Collisionality."

S. Skupsky, "Beam Smoothing and Pulse Shaping for Solid-State Lasers."

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S. Uchida, H. Chen, Y.-H. Chuang, J. A. Delettrez, and D. D. Meyerhofer, "Superthermal Electrons and Ion Production in Picosecond Laser-Plasma Interactions."

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C. Twomey, S. H. Chen, and A. W. Schmid, "Complexation, Morphology, and Fluorescence Life Time Measurement of the Neodymium Doped Poly(ethylene oxide)," presented at the American Institute of Chemical Engineers Meeting, "Active, Smart, and Responsive Polymeric Materials," Los Angeles, CA, 17–22 November 1991.

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