

PUBLICATIONS AND CONFERENCE PRESENTATIONS

Publications

G. A. Mourou and K. E. Meyer, "Subpicosecond Electro-Optic Sampling Using Coplanar Strip Transmission Lines," *Appl. Phys. Lett.* **45**, 492–494 (1984).

J. M. Soures, review of *The High-Power Iodine Laser* by G. Brederlow, E. Fill, and K. J. Witte, *IEEE J. Quantum Electron.* **20**, 1098 (1984).

S. Kacenjar, L. M. Goldman, A. Entenberg, and S. Skupsky, " $\langle \rho R \rangle$ Measurements in Laser-Produced Implosions Using Elastically Scattered Ions," *J. Appl. Phys.* **56**, 2027–2032 (1984).

J. P. Matte, T. W. Johnston, J. Delettrez, and R. L. McCrory, "Electron Heat Flow with Inverse Bremsstrahlung and Ion Motion," *Phys. Rev. Lett.* **53**, 1461–1464 (1984).

R. L. Keck, L. M. Goldman, M. C. Richardson, W. Seka, and K. Tanaka, "Observations of High-Energy Electron Distributions in Laser Plasmas," *Phys. Fluids* **27**, 2762–2766 (1984).

C. J. McKinstrie, A. Simon, and E. A. Williams, "Nonlinear Saturation of Stimulated Raman Scattering in an Homogeneous Plasma," *Phys. Fluids* **27**, 2738–2743 (1984).

M. Strauss, G. Hazak, D. Shvarts, and R. S. Craxton, "Magnetic Field Effects on Electron Heat Transport in Laser-Produced Plasmas," *Phys. Rev. A* **30**, 2627–2637 (1984).

B. Yaakobi, "X-Ray Lithography Using Laser Plasma as a Source," *Solid State Technology* **11**, 239–240 (1984).

A. Simon and R. W. Short, "New Model of Raman Spectra in Laser-Produced Plasma," *Phys. Rev. Lett.* **53**, 1912–1914 (1984).

A. Schmid, D. Smith, M. Guardalben, and J. Abate, "Photothermal-Deflection Analysis of UV Optical Thin Films," *SPIE Vol. 476—Excimer Lasers, Their Applications, and New Frontiers in Lasers*, edited by Ronald W. Waynant (1984), pp. 136–142.

H. L. Helfer, R. L. McCrory, and H. M. Van Horn, "Further Monte Carlo Calculations for the Classical One-Component Plasma in the Range $100 \leq \Gamma \leq 160$: The FCC Lattice," *J. Stat. Phys.* **37**, 577–588 (1984).

K. Tanaka, L. M. Goldman, W. Seka, R. W. Short, and E. A. Williams, "Spectroscopic Study of Scattered Light at around the Fundamental Wavelength in UV Laser-Produced Plasmas," *Phys. Fluids* **27**, 2960–2965 (1984).

I. N. Duling III, and M. G. Raymer, "Time-Dependent Semiclassical Theory of Gain-Coupled Distributed Feedback Lasers," *IEEE J. Quantum Electron.* **20**, 1202–1207 (1984).

Forthcoming Publications

R. D. Frankel and J. M. Forsyth, "Time-Resolved X-Ray Diffraction Study of Photostimulated Purple Membrane," accepted for publication in *Biophysical Journal*.

I. N. Duling III, T. Norris, T. Sizer II, P. Bado, and G. Mourou, "Kilohertz Synchronous Amplification of 85-fs Optical Pulses," accepted for publication in the *Journal of the Optical Society of America*.

T. Norris, T. Sizer II, and G. Mourou, "Generation of 85-fs Pulses by Synchronous Pumping of a CPM Dye Laser," accepted for publication in the *Journal of the Optical Society of America*.

B. Yaakobi, O. Barnouin, J. Delettrez, L. M. Goldman, R. Marjoribanks, R. L. McCrory, M. C. Richardson, and J. M. Soures, "Thermal Transport Measurements in Six-Beam, UV Irradiation of Spherical Targets," accepted for publication in the *Journal of Applied Physics*.

B. A. Brinker, "Microradiographic Self-Imaging of DT-Filled Inertial Fusion Targets," accepted for publication in the *Journal of Vacuum Science and Technology*.

Conference Presentations

S. D. Jacobs, K. A. Cerqua, T. J. Kessler, and W. Seka, "Retrofit of a High-Power Nd:Glass Laser System with Liquid Crystal Polarizers," presented at the 16th Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, October 1984.

The following presentations were made at the Twenty-Sixth Annual Meeting of the Division of Plasma Physics of the American Physical Society, Boston, MA, October 1984:

W. Beich, M. Dunn, R. Hutchison, W. Lampeter, T. Kessler, M. C. Richardson, W. Seka, S. Skupsky, J. Soures, and S. Tommer, "Irradiation Uniformity of Spherical Targets by Multiple UV Beams from OMEGA."

T. Boehly, L. M. Goldman, W. Seka, and R. S. Craxton, "Hydrodynamic Efficiency and Thermal Transport in Planar Target Experiments at LLE."

B. Boswell, T. Boehly, J. Delettrez, L. M. Goldman, M. C. Richardson, and S. Sarraf, "Ion Velocity Distributions from Spherical 1054-nm and 351-nm Laser Plasmas."

R. S. Craxton, "Hydrodynamics of Long-Scale-Length Plasmas" (invited).

J. Delettrez, R. Epstein, M. C. Richardson, C. P. Verdon, and B. Yaakobi, "Simulation of Experiments in Spherical Irradiation at $\lambda = 350$ nm."

R. Epstein, S. Skupsky, and B. Yaakobi, "Absorption Spectroscopy as a Density Diagnostic for Dense Imploded Shells."

L. M. Goldman, R. Bahr, R. Boni, R. L. McCrory, M. C. Richardson, W. Seka, R. W. Short, and K. Tanaka, "Coronal Spectroscopy in Laser Plasmas."

P. A. Jaanimaagi and B. L. Henke, "Time-Resolved X-Ray Line Emission Studies of Thermal Transport in Multiple-Beam UV-Irradiated Targets."

R. L. Keck, M. C. Richardson, J. M. Soures, and J. Delettrez, "Absorption and Hot Electron Generation in UV (351 nm) Driven Spherical Imploding Targets."

S. A. Letzring, M. C. Richardson, P. D. Goldstone, G. Gregory, and G. Eden, "Coronal Conditions in High-Z Spherical Targets Irradiated by Multibeam 351-nm Radiation."

C. J. McKinstrie and A. Simon, "Nonlinear Saturation of Stimulated Raman Scattering in Collisional Homogenous Plasma."

M. C. Richardson, J. Delettrez, R. L. McCrory, J. M. Soures, C. Verdon, and B. Yaakobi, "Scaling of UV (351-nm) Fusion Implosions Driven by Multiple Beams."

W. Seka, L. M. Goldman, K. Tanaka, B. Boswell, R. Boni, and R. Bahr, "Characteristics of High Energy Laser Matter Interaction Studies."

R. W. Short, "Spatial Structure of Heat Flow Instabilities in Laser Plasmas."

A. Simon and R. W. Short, "Interpretation of Raman Spectra as Enhanced Incoherent Ordinary Scattering."

S. Skupsky, R. L. McCrory, and C. P. Verdon, "To What Extent Will Small-Scale Laser-Beam Fluctuations 'Seed' the Rayleigh-Taylor Instability in Direct-drive Targets?"

J. M. Soures, R. Hutchison, S. Jacobs, R. L. McCrory, R. Peck, M. C. Richardson, and W. Seka, "Operational Characteristics of the OMEGA Short-Wavelength Laser Fusion Facility."

K. Swartz and R. W. Short, "Heat Transport by Non-Maxwellian Electrons."

K. Tanaka, B. Boswell, R. S. Craxton, L. M. Boldman, W. Seka, R. W. Short, J. M. Soures, R. Bahr, and F. Guglielmi, "Parametric Processes in Underdense UV Laser-Produced Plasmas."

B. Yaakobi, O. Barnouin, J. Delettrez, R. L. McCrory, M. C. Richardson, and J. M. Soures, "Transport Measurements on Targets Imploded by 12 UV Beams of OMEGA."

P. D. Goldstone, R. H. Day, G. Eden, F. Ameduri, W. C. Mead, S. R. Goldman, M. C. Richardson, R. L. Keck, W. Seka, G. Pien, J. M. Soures, R. L. McCrory, and J. Knauer, "Interaction Physics and X-Ray Emission in High-Z Plasmas at 351 nm."

R. S. Marjoribanks, G. Stradling, M. C. Richardson, A. Hauer, O. Barnouin, B. Yaakobi, S. A. Letzring, and P. D. Goldstone, "Spectral and Temporal Characteristics of X-Rays from Spherical High-Z Targets Irradiated with 351-nm Laser Light."

S. A. Letzring, M. C. Richardson, P. C. Goldstone, G. Gregory, and G. Eden, "Coronal Conditions in High-Z Spherical Targets Irradiated by Multibeam 351-nm Radiation."

S. R. Goldman, W. C. Mead, P. D. Goldstone, and M. C. Richardson, "Energy Penetration and Profile Steepening in High-Z Plasmas."

The following presentations were made at the Annual Meeting of the Optical Society of America, San Diego, CA, October 1984:

I. N. Duling III, T. Norris, T. Sizer II, P. Bado, and G. Mourou, "Synchronous Amplification of Optical Pulses at Kiloherzt Repetition Rates."

S. D. Jacobs, K. A. Cerqua, H. Kim, and J. F. Mason, "Polymeric Liquid-Crystal Laser-Blocking Filters."

S. D. Jacobs, A. L. Hrycin, and C. Baldwin, "Dynamically Loaded Scratch Tester for Thin Film Adhesion Measurements."

G. Mourou and S. Williamson, "Time-Resolved Laser-Induced Phase Transformation in Aluminum," presented at the meeting of the Materials Research Society, Boston, MA, November 1984.

The following presentations were made at the American Vacuum Society Symposium, Reno, NE, December 1984:

B. A. Brinker, "Microradiographic Self-Imaging of DT-Filled Inertial Fusion Targets."

F. Guglielmi, "Fabrication of Polymeric Microballoons for Ablative Inertial Fusion Targets," and "Low Density Foam for Self-Focusing Inertial Fusion Targets."

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H. Kim, "X-Ray Microradiography of Inertial Fusion Target Using the Laser-Produced Plasma as an X-Ray Source."

S. Noyes and H. Kim, "Aluminum/Aluminum Nitride Sputter Deposition on the Inertial Fusion Target Using the Pulsed Gas Process."

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