PUBLICATIONS AND CONFERENCE PRESENTATIONS

Publications

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M. C. Richardson, R. S. Craxton, J. Delettrez, R. L. Keck, R. L. McCrory, W. Seka, and J. M. Soures, "Absorption Physics at 351 nm in Spherical Geometry," *Phys. Rev. Lett.* **54**, 1656–1659 (1985).

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U. Feldman, J. F. Seeley, M C. Richardson, W. E. Behring, and S. Goldsmith, "Transitions of the Type 2s-2p in Fluorine-Like and Oxygen-Like As, Se, Br and Rb^{x}," to be published in the *Journal of the Optical Society of America B*.

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C. J. McKinstrie and A. Simon, "Nonlinear Saturation of Stimulated Raman Scattering in a Collisional Homogeneous Plasma," to be published in *Physics of Fluids*.

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K. A. Tanaka, B. Boswell, R. S. Craxton, L. M. Goldman, F. Guglielmi, W. Seka, R. W. Short, and J. M. Soures, "Brillouin Scattering, Two-Plasmon Decay, and Self-Focusing in Underdense UV Laser-Produced Plasmas," to be published in *Physics of Fluids*.

S. Williamson, G. Mourou, and J. C. M. Li, "Time-Resolved Laser-Induced Phase Transformation in Aluminum," to be published in the *Proceedings of MRS Symposium on Energy Beam-Solid Interactions and Transient Thermal Processing*.

J. F. Seeley, C. M. Brown, U. Feldman, M. Richardson, B. Yaakobi, and W. E. Behring, "Evidence for Lasing on the 182-Å Transition of CVI in a Radiation-Cooled Plasma," to be published in *Optics Communications*.

G. Albrecht, M. Grunersen, and D. Smith, "An Active Mode-Locked Q-Switched Oscillator Using Nd^{3+} Doped Glass as the Active Medium," to be published in the *IEEE Journal of Quantum Electronics*.

P. Bado and M. Bouvier, "A Multikilohertz Pockels Cell Driver," to be published in *Review of Scientific Instruments*.

W. A. Lampeter, "Computerized Search of Chest Radiographs for Tumors," to be published in *Investigative Radiology*.

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B. Yaakobi, R. D. Frankel, J. M. Forsyth, and J. M. Soures, "Laser Generated X-Ray Source for Time-Resolved Biological and Material Structure Studies," to be published in the *Proceedings of a Symposium on New Methods in X-Ray Absorption, Scattering, and Diffraction*.

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Direct-Drive Laser Fusion Experiments at the Laboratory for Laser Energetics," to be published in *Plasma Physics and Controlled Nuclear Fusion Research 1984* (IAEA, Vienna).

D. P. Butler, T. Y. Hsiang, and G. A. Mourou, "Transient Relaxation of the Normal State Resistance of Tin Microstrips in the Presence of Current Bias," to be published in the *Journal of Low Temperature Physics*.

Conference Presentations

S. Jacobs, "Liquid Crystal Devices for Laser Systems," presented at the Technical Symposium: "Lasers and Particle Beams for Fusion and Strategic Defense," Rochester, NY, April 1985 (invited talk).

The following presentations were made at the Gamma-Ray Laser Workshop, Institute for Defense Analysis, Alexandria, VA, May 1985:

S. Letzring, B. Yaakobi, and M. C. Richardson, "Diagnostics for Gamma-Ray Laser Candidate Measurement" (invited talk).

B. Yaakobi, S. Letzring, J. M. Soures, F. Marshall, and M. C. Richardson, "Properties of X-Rays from UV-Laser-Irradiated Targets Relevant to Pumping Nuclear Transitions" (invited talk).

The following presentations were made at the Conference on Lasers and Electro-Optics '85, Baltimore, MD, May 1985:

R. S. Marjoribanks, M. C. Richardson, O. Barnouin, B. Yaakobi, R. L. Keck, S. A. Letzring, G. Stradling, S. R. Goldman, P. D. Goldstone, A. Hauer, and W. C. Mead, "Spectral and Temporal Characteristics of X-Ray Emission from UV-Irradiated Spherical High-Z Targets."

K. E. Meyer, D. R. Dykaar, and G. Mourou, "Two-Dimensional E-Field Mapping and High-Speed Device Characterization Using the Electro-Optic Sampling Technique."

G. Mourou and S. Williamson, "Picosecond Electron Probe for Direct Investigation of Lattice Temperature and Structural Phase" (invited talk).

T. Norris, I. N. Duling III, M. Pessot, T. Sizer II, J. Dawes, and G. A. Mourou, "Generation of Microjoule, 65-fs Pulses at High Repetition Rate."

M. C. Richardson, W. Beich, J. Delettrez, M. Dunn, L. Folnsbee, R. J. Hutchison, S. A. Jacobs, R. Keck, T. Kessler, W. Lampeter, R. Leary, S. Letzring, F. J. Marshall, R. L. McCrory, S. Morse, R. Peck, G. Pien, C. Pruitt, D. Quick, F. Rister, W. Seka, M. Simpson, S. Skupsky, D. Smith, J. M. Soures, C. P. Verdon, W. Watson, and D. Whiteman, "OMEGA—A 24-Beam UV Irradiation Facility" (invited talk).

B. Yaakobi, "Thermal Transport in Laser-Irradiated Targets," and "X-Ray Measurement Techniques in Laser Fusion and X-Ray Laser Studies," presented at the Spring College on Radiation in Plasmas, Trieste, Italy, May 1985 (invited talks).

W. R. Donaldson and G. A. Mourou, "Improved Contacts on Intrinsic Silicon for High Voltage Photoconductive Switching," presented at the 5th IEEE Pulsed Power Conference, Arlington, VA, June 1985.

S. Williamson, G. Mourou, and J. C. M. Li, "Genesis of Melting," presented at the Rochester Condensed Matter Symposium, Department of Physics and Astronomy, University of Rochester, Rochester, NY, June 1985.

W. A. Lampeter, "Computerized Search of Chest Radiographs for Nodules," presented at Computer-Assisted Radiology, Berlin, West Germany, June 1985.

K. E. Meyer, D. R. Dykaar, and G. A. Mourou, "Characteristics of TEGFET's and MESFET's Using the Electro-Optic Sampling Technique," presented at the Device Research Conference, Boulder, CO, June 1985.

The following presentations were made at the 1985 Rochester Forth Conference, Rochester, NY, June 1985:

G. Ball, R. Boni, and W. Seka, "Computerized Pulse Train Diagnostics for Kuizenga Oscillators."

L. P. Forsley, "nth-Order Defining Words."

The following presentations were made at the Workshop on the Physics of Laser Fusion, Vancouver, B. C., June 1985:

J. Delettrez, "Thermal Electron Transport in Direct-Drive ICF."

L. M. Goldman, "The Use of Laser Harmonic Spectroscopy as a Target Diagnostic."

A. Simon, "Raman Scattering."

The following presentations were made at the 15th Annual Anomalous Absorption Conference, Banff, Alberta, Canada, June 1985:

O. Barnouin, J. Delettrez, L. M. Goldman, R. Marjoribanks, M. C. Richardson, J. M. Soures, and B. Yaakobi, "Thermal Transport Measurements in 24-Beam, UV Irradiation of Spherical Targets."

J. Delettrez, P. A. Jaanimagi, B. L. Henke, and M. C. Richardson, "Temporal Dependence of the Mass Ablation Rate in UV-Laser-Irradiated Spherical Targets."

R. Epstein, J. Delettrez, M. C. Richardson, and B. Yaakobi, "Numerical Simulation and Target Design for Laser-Imploded Cylindrical Plasmas."

P. A. Holstein, J. Delettrez, K. Swartz, S. Skupsky, and J. P. Matte, "Study of Delocalized Heat Flux with and without Hydrodynamics."

F. J. Marshall, M. C. Richardson, P. Jaanimagi, R. L. Keck, H. Kim, S. A. Letzring, R. S. Marjoribanks, R. L. McCrory, P. McKenty, J. M. Soures, and C. P. Verdon, "Multibeam, UV-Irradiated High-Aspect-Ratio Targets."

F. J. Marshall and M. C. Richardson, "Uniformity of X-Ray Flux from Gold-Coated Spherical Targets."

C. J. McKinstrie and A. Simon, "The Absolute Stimulated Raman Scattering Instability in a Finite Collisional Plasma."

M. C. Richardson, O. Barnouin, P. Jaanimagi, R. L. Keck, H. Kim, S. A. Letzring, R. J. Marshall, R. L. McCrory, P. McKenty, J. M. Soures, C. P. Verdon, and B. Yaakobi, "Ablative Fusion Targets Driven by the 24-Beam UV OMEGA System."

M. C. Richardson, O. Barnouin, R. Epstein, P. A. Jaanimagi, R. S. Marjoribanks, J. M. Soures, and B. Yaakobi, "Laser-Imploded Cylindrical Plasmas."

M. C. Richardson, R. L. Hutchison, R. L. Keck, H. Kim, S. A. Letzring, F. J. Marshall, R. L. McCrory, P. McKenty, J. M. Soures, and C. P. Verdon, "24-Beam, 2-kJ Implosion Experiments with OMEGA."

W. Seka, L. M. Goldman, A. Simon, F. J. Marshall, and M. C. Richardson, "Raman Scattering in Laser-Produced Plasmas."

R. W. Short, "The Weibel Instability Driven by Hot Electrons in the Plasma Corona."

A. Simon, R. W. Short, W. Seka, and L. M. Goldman, "Enhanced Thomson Scattering Theory Applied to Eight Experiments."

K. Swartz, R. W. Short, and A. Simon, "The Effect of Multiple Beams on Parametric Instabilities."

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