

# PUBLICATIONS AND CONFERENCE PRESENTATIONS

## Publications

G. Mourou, W. H. Knox, and S. Williamson, "High-Power Picosecond Switching in Bulk Semiconductors," in *Picosecond Optoelectronic Devices*, edited by Chi H. Lee (Academic Press, New York, 1984), pp. 219–248.

C. A. Hanzlik, W. H. Knox, T. M. Nordlund, R. Hilf, and S. L. Gibson, "Picosecond Fluorescence of Hematoporphyrin Derivative, Its Components and Related Porphyrins," in *Porphyrin Localization and Treatment of Tumors*, edited by D. R. Doiron and C. J. Gomer (Alan R. Liss, New York, 1984), pp. 201–210.

L. P. Forsley, "A Review of RISC and Forth Machine Literature," *The Journal of Forth Application and Research* 2(1), 85–88 (1984).

Robert D. Frankel and James M. Forsyth, "Time-Resolved X-Ray Diffraction Study of Photostimulated Purple Membrane," *Biophys. J.* 47, 387–393 (1985).

## Forthcoming Publications

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*.

W. E. Behring, J. F. Seely, S. Goldsmith, L. Cohen, M. C. Richardson, and V. Feldman, "Transitions of the Type 2s-2p in Highly Ionized Zn, Ga, and Ge," accepted for publication by the *Journal of the Optical Society of America*.

M. C. Richardson, R. S. Craxton, J. Delettrez, R. L. McCrory, W. Seka, and J. M. Soures, "Absorption Physics at 351 nm in Spherical Geometry," to be published in *Physical Review Letters*.

N. Delameter, C. F. Hooper, R. F. Joyce, L. A. Woltz, N. M. Ceglio, R. L. Kaufmann, R. W. Lee, and M. C. Richardson, "Opacity Effects on H-Like X-Ray Lines Emitted from Laser Driven Implosions," to be published in *Physical Review A*.

F. Guglielmi, "Fabrication of Polymeric Microballoons for Ablative Inertial Fusion Targets," accepted for publication in the *Journal of Vacuum Science and Technology A*.

V. 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<sup>x</sup>," to be published in the *Journal of the Optical Society of America B*.

H. Kim and M. D. Wittman, "X-Ray Microradiography of Inertial Fusion Targets Using a Laser Produced Plasma as an X-Ray Source," accepted for publication in the *Journal of Vacuum Science and Technology A*.

S. G. Noyes and H. Kim, "Aluminum/Aluminum-Nitride Sputter Deposition on the Inertial Fusion Target Using the Pulsed-Gas Process," accepted for publication in the *Journal of Vacuum Science and Technology A*.

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*.

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," accepted for publication in *Physics of Fluids*.

F. Guglielmi, "Low Density Foam for Self-Focusing Inertial Fusion Targets," accepted for publication in the *Journal of Vacuum Science and Technology A*.

J. F. Seeley, C. M. Brown, V. 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*.

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*.

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 by Academic Press.

## Conference Presentations

A. Simon, "New Model of Raman Spectra in Laser-Produced Plasma," presented at the Meeting of the American Physical Society, Toronto, Ontario, January 1985.

P. Bado, I. N. Duling III, T. Sizer II, T. B. Norris, and G. A. Mourou, "Generation of White Light at 1 kHz," presented at the SPIE Conference on Ultrashort Pulse Spectroscopy and Applications, Los Angeles, CA, January 1985.

---

The following presentations were made at the Fifth Topical Conference on Atomic Processes in High-Temperature Plasmas, Pacific Grove, CA, February 1985:

O. Barnouin, R. S. Marjoribanks, M. C. Richardson, B. Yaakobi, S. R. Goldman, P. D. Goldstone, A. Hauer, W. C. Mead, P. A. Jaanimagi, and B. L. Henke, "M-Line Spectra from UV-Laser-Irradiated High-Z Plasmas."

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

R. S. Marjoribanks, M. C. Richardson, R. Epstein, P. A. Jaanimagi, J. Delettrez, and O. Barnouin, "Characterization of the Temperature Profile from the Ionization Front in Laser Plasma Interactions."

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

J. F. Seeley, V. Feldman, C. M. Brown, M. C. Richardson, B. Yaakobi, and W. E. Behring, "Evidence for Lasing Action on the CVI 182-Å Transition in a Radiation-Cooled Plasma."

---

The following presentations were made at the Topical Meeting on Picosecond Electronics and Opto-Electronics, Incline Village, NV, March 1985:

D. R. Dykaar, T. Y. Hsiang, and G. A. Mourou, "Development of a Picosecond Cryo-Sampler Using Electro-Optic Techniques."

C. J. Kryzak, S. M. Faris, K. E. Meyer, and G. A. Mourou, "Transmission Line Designs with a Measured Step Response of 3 ps per Centimeter."

K. E. Meyer, D. R. Dykaar, and G. A. Mourou, "Characterization of TEGFET's and MESFET's Using the Electro-Optic Sampling Technique."

K. E. Meyer and G. A. Mourou, "Two-Dimensional E-Field Mapping with Subpicosecond Resolution."

S. Williamson and G. Mourou, "Picosecond Electro-Electron Optic Oscilloscope."

---

The following presentations were made at the Fourth Target Specialists Meeting at St. Petersburg, FL, March 1985:

H. Kim and J. M. Soures, "Inertial Confinement Fusion Target Fabrication Activities at the Laboratory for Laser Energetics, University of Rochester."

H. Kim, S. Noyes, and M. C. Richardson, "Fabrication of Thin Film Cylindrical Targets for X-Ray Laser Experiments."

The work described in this volume includes current research at the Laboratory for Laser Energetics which is supported by Empire State Electric Energy Research Corporation, General Electric Company, New York State Energy Research and Development Authority, Northeast Utilities Service Company, Ontario Hydro, Southern California Edison Company, The Standard Oil Company, University of Rochester, and the U.S. Department of Energy Office of Inertial Fusion under agreement DE-FC08-85DP40200.

