

PUBLICATIONS AND CONFERENCE PRESENTATIONS

PUBLICATIONS

"Six Beam Irradiation and Implosion of Laser Fusion Targets: Laser Fusion Targets: Laser Focus Dependence," E. I. Thorsos, T. C. Bristow, J. A. Delettrez, J. M. Soures, and J. Rizzo; *Appl. Phys. Lett.* 35, 598 (1979).

"Search for Shell Disintegration in Laser Implosion Experiments," K. Tanaka and E. I. Thorsos; *Appl. Phys. Lett.* 35, 853 (1979).

"Active Pulse Shaping in the Picosecond Domain," J. Agostinelli, G. Mourou and C. Gabel; *Appl. Phys. Lett.* 35, 731 (1979).

"High Power Switching with Picosecond Precision," G. Mourou and W. Knox; *Appl. Phys. Lett.* 35, 492 (1979).

"Optical Pulse Shaping with a Grating Pair," J. Agostinelli, G. Harvey, T. Stone and C. Gabel; *Appl. Optics* 18, 2500 (1979).

"Explosive-Pusher-Type Laser Compression Experiments with Neon-Filled Microballoons," T. C. Bristow, J. Delettrez, A. Entenberg, Y. Gazit, A. Hauer, L. Goldman, E. Lazarus, C. Lee, S. Letzring, M. Lubin, R. McCrory, T. Mukaiyama, B. Nicholson, B. Perry, J. Rizzo, S. Skupsky, J. Soures, D. Steel, E. Thorsos, and B. Yaakobi; Plasma Physics and Controlled Nuclear Fusion Research (International Atomic Energy Agency, Vienna, 1979), Vol. III, p. 29.

PAPERS SUBMITTED FOR PUBLICATION

"Spectral Methods for Multi-Dimensional Diffusion Problems," R. L. McCrory and S. A. Orszag (to be published in *J. Comp. Physics*).

"Dense Matter in Laser Fusion Experiments," R. L. McCrory and J. Wilson (to be published in *l'Edition Francaise Physique*, E. Shatzman, Ed.).

"X-Ray Line Shift as a High-Density Diagnostic for Laser Imploded Plasmas," S. Skupsky (to be published in *Phys. Rev. A*).

"Fast Ion Production by Suprathermal Electrons in Laser Fusion Plasmas," M. A. True, J. R. Albritton and E. A. Williams (submitted to *Physics of Fluids*).

"Measurements of Brillouin Backscatter Dependence on Density Scale Lengths Near Critical Density," R. E. Turner and L. M. Goldman (submitted to *Physical Review Letters*).

"Evidence for Multiple Brillouin Modes in Laser-Plasma Backscatter Experiments," R. E. Turner and L. M. Goldman (submitted to *Physical Review Letters*).

"Design and Performance Characteristics of a High Power Phosphate Glass Laser System," W. Seka, J. Soures, O. Lewis, J. Bunkenburg, D. Brown, S. Jacobs, G. Mourou, and J. Zimmerman (submitted to Applied Optics).

"Picosecond Switching of a Multi-kilovolt DC Bias with Laser Activated Silicon at Low Temperature," M. Stavola, M. G. Sceats, and G. Mourou (submitted to Applied Physics).

CONFERENCE PRESENTATIONS

I. American Physical Society - Division of Plasma Physics, Boston, November 12-16, 1979.

"Implosion of Argon-Filled Glass Microballoons with the ZETA Laser System," B. Yaakobi, T. C. Bristow, S. Skupsky, R. L. McCrory, P. Bourke, H. Deckman, and J. Soures.

"Determination of Time-Varying Electrostatic Potentials in Laser Fusion Targets from Alpha Particle Spectra," J. Delettrez, Y. Gazit, A. Entenberg, and J. Vimont.

"Effect of Electric Field on Charged Reaction Product Spectra in 6-Beam Symmetrical Implosion Experiments," Y. Gazit, J. Delettrez, A. Entenberg, T. C. Bristow, and J. Soures.

"Absorption Measurements for Glass Microballoon Implosions with 6-Beam Irradiations at 1.06μ ," W. Seka, R. Hutchison, and R. Nimick.

"Brillouin Backscatter Dependence on Density Scale Lengths Near Critical Density," R. E. Turner and L. M. Goldman.

"Intensity and Time Calibration of a Picosecond X-Ray Streak Camera with Accurate Time Fiducials," W. D. Friedman, S. A. Letzring, J. E. Rizzo, and W. Seka.

"Search for Shell Disintegration in Laser Implosion Experiments," K. Tanaka and E. I. Thorsos.

"Measurements of the Dynamics of Exploding Pusher Targets," S. A. Letzring and M. Lubin.

"Symmetrical Implosion Experiments - Results with Exploding Pusher Targets," T. C. Bristow, J. Delettrez, A. Entenberg, W. Friedman, Y. Gazit, S. Letzring, W. Seka, J. Soures, E. Thorsos, and B. Yaakobi.

"Implosions with Plastic Coated Glass Microballoons on ZETA," E. I. Thorsos, W. Seka, T. Bristow, J. Delettrez, A. Entenberg, W. Friedman, R. McCrory, J. Rizzo, J. Soures, and B. Yaakobi.

"Symmetrical Illumination Laser Fusion Implosion Experiments at the University of Rochester's National Laser User Facility," J. M. Soures (invited paper).

"Focusing X-Ray Spectrograph for Laser Fusion Experiments," B. Yaakobi, R. E. Turner, P. Bourke, and J. Soures.

"Nonlinear Development of Ablation Driven Rayleigh-Taylor Instability," R. L. McCrory, R. L. Morse, and C. P. Verdon.

"Two Dimensional Lagrangian Modeling and Unstable Hydrodynamic Flows," C. P. Verdon, R. L. McCrory, R. L. Morse.

"Ion Current Measurement as a Diagnostic of Laser Imploded Spherical Shells," B. Nicholson, J. Delettrez, B. Yaakobi, and M. Lubin.

"Simulation of Fast Ion Generation in Laser Driven Implosions," J. Vimont and J. Delettrez.

"Theoretical Simulation of High Density Experiments at the University of Rochester," S. Skupsky, R. L. McCrory, and B. Yaakobi.

"Spectral Methods for Multi-Dimensional Diffusion Problems," S. A. Orszag and R. L. McCrory.

"Implosion Dynamics of Asymmetrically Illuminated Radiationally Cooled Targets for ZETA," R. S. Craxton and R. L. McCrory.

II. Optical Society of America, Annual Meeting, Rochester, New York, October 1979.

"Laser Drilling with 80 psec Pulse Lengths," H. W. Deckman, J. Drumheller, and J. Rizzo.

"Microdensitometer Using Backscattered Electrons," H. W. Deckman and D. Black.

"Monochromatic Soft X-Ray Source for Contact Microradiography," H. W. Deckman and J. H. Dunsmuir.

"Picosecond Active Pulse Shaping," J. Agostinelli, G. Mourou and C. W. Gabel.

"Normal-Incidence Soft X-Ray Reflectors for Arbitrary Wavelengths Using a Modified Langmuir-Blodgett Method," A. E. Rosenbluth and J. M. Forsyth.

"Extreme-Ultraviolet and X-Ray Spectroscopy of an Inverted Laser-Produced Aluminum Plasma," Yves Conturie and J. M. Forsyth.

"Contributions to Information and Noise in Zone-Plate Coded Imaging from Various Recording Media," F. D. Kalk and J. M. Forsyth.

"X-Ray Diagnostics in Laser-Fusion Experiments," J. M. Forsyth (invited paper).

III. Other Meetings

"Switching with Picosecond Precision with Laser Activated Semiconductor Switches," G. Mourou; invited paper presented at the 3rd Annual IEEE Conference on Electronic Device Activities in Western New York, October 18, 1979.

"Nanosecond X-Ray Diffraction of Biological Samples Using a Laser Plasma Source," J. Forsyth; invited paper presented at New York State Section Meeting of the American Physical Society, October 1979.

"High Power Glass Lasers and Their Application to Controlled Thermonuclear Fusion," invited paper presented by J. Soures at the New York State Section Meeting of the American Physical Society, October 1979.

"High Density Compression Experiments at LLE," presented by J. Soures at the Fifth Workshop on Laser Interaction with Matter, November 1979.

"Dense Matter in Laser Fusion: Experiments," R. McCrory and J. Wilson, Colloquium of High Density Matter, September 1979.

"Electronic, Nuclear, and Total Nonlinear Indices of Liquids," D. C. Brown, J. M. Rinefierd, S. D. Jacobs, and J. A. Abate; Eleventh Annual Symposium on Optical Materials for High Power Lasers, Boulder, Colorado, October 30-31, 1979.

