

PUBLICATIONS AND CONFERENCE PRESENTATIONS

Publications

R. Epstein, "The Design and Optimization of Recombination Extreme-Ultraviolet Lasers," *Phys. Fluids B* **1**, 214–220 (1989).

T. B. Norris, X. J. Song, W. J. Schaff, L. F. Eastman, G. Wicks, and G. A. Mourou, "Tunneling Escape Time of Electrons from a Quantum Well Under the Influence of an Electric Field," *Appl. Phys. Lett.* **54**, 60–62 (1989).

J. C. Lee, A. Schmid, and S. D. Jacobs, "Effects of Anchoring Under Intense Optical Fields in a Cholesteric Liquid Crystal," *Mol. Cryst. Liq. Cryst.* **166**, 253–265 (1989).

O. Barnouin, B. Yaakobi, J. Delettrez, R. Epstein, P. Jaanimagi, and L. M. Goldman, "Experimental and Numerical Study of Thermal Transport in 24-Beam Ultraviolet Irradiation of Spherical Targets," *J. Appl. Phys.* **65**, 969–977 (1989).

K. Meyer, M. Pessot, G. Mourou, R. Grondin, and S. Chamoun, "Subpicosecond Photoconductivity Overshoot in Gallium Arsenide Observed by Electro-Optic Sampling," *Appl. Phys. Lett.* **53**, 2254–2256 (1988).

M. Pessot, J. Squier, P. Bado, G. Mourou, and D. J. Harter, "Chirped Pulse Amplification of 300 fs Pulses in an Alexandrite Regenerative Amplifier," *IEEE J. Quantum Electron.* **25**, 61–66 (1989).

S. H. Chen and Y. F. Maa, "A Reexamination of the Synthesis of Liquid Crystalline Side-Chain Polyacrylates via Liquid-Liquid Phase Transfer Catalysis," *Macromolecules* **21**, 904 (1988).

- R. L. Berger, E. A. Williams, and A. Simon, "Effect of Plasma Noise Spectrum on Stimulated Scattering in Inhomogeneous Plasma," *Phys. Fluids B* **1**, 414-421 (1989).
- P. H. Ballentine, A. M. Kadin, M. A. Fisher, D. S. Mallory, and W. R. Donaldson, "Microlithography of High-Temperature Superconducting Films: Laser Ablation vs. Wet Etching," *IEEE Trans. Magn.* **25**, 950-953 (1989).
- P. Maine and G. Mourou, "Amplification of 1-nsec Pulses in Nd:Glass Followed by Compression to 1 psec," *Opt. Lett.* **13**, 467-469 (1988).
- E. M. Epperlein, G. J. Rickard, and A. R. Bell, "A Code for the Solution of the Vlasov-Fokker-Planck Equation in 1-D or 2-D," *Comput. Phys. Commun.* **52**, 7-13 (1988).
- S. Skupsky and T. Kessler, "A Source of Hot Spots in Frequency-Tripled Laser Light," *Opt. Commun.* **70**, 123 (1989).
- P. C. Cheng, S. P. Newberry, H. G. Kim, and M. D. Wittman, "X-Ray Contact Microradiography and Shadow Projection X-Ray Microscopy," *Europ. J. Cell Biol. Suppl.* **25** **48**, 169-172 (1989).
- R. L. McCrory, J. M. Soures, C. Verdon, M. Richardson, P. Audebert, D. Bradley, J. Delettrez, L. Goldman, R. Hutchison, S. Jacobs, P. Jaanimagi, R. Keck, H. Kim, T. Kessler, J. Knauer, R. Kremens, S. Letzring, F. Marshall, P. McKenty, W. Seka, S. Skupsky, and B. Yaakobi, "High-Density Laser-Fusion Experiments at the Laboratory for Laser Energetics," *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York and London, 1989), pp. 483-502.
- M. C. Richardson, D. K. Bradley, P. A. Jaanimagi, J. Delettrez, R. Epstein, C. F. Hooper, R. C. Mancini, and D. Kilcrease, "X-Ray Diagnosis of High-Density Compression of Ar-Filled Polymer Shell Targets," *Rev. Sci. Instrum.* **59**, 1851 (1988).

Forthcoming Publications

- R. L. McCrory and C. P. Verdon, "Computer Modeling and Simulation in ICF," to be published in *Il Nuovo Cimento*.

W. R. Donaldson, "Radial Line Structure Experiments," to be published in the *Proceedings of the 4th Workshop: Pulse Power Techniques for Future Accelerators*, Erice, Sicily, 3–10 March 1988.

G. Mourou, "Picosecond Electro-Optic Sampling," to be published in the *Proceedings of the High Speed Electronics Conference*, Stockholm, Sweden, August 1986.

R. L. McCrory and J. M. Soures, "Inertially Confined Fusion," to be published in *Applications of Laser Plasmas*, Chapter 7.

G. J. Rickard, A. R. Bell, and E. M. Epperlein, "2-D Fokker-Planck Simulations of Short Pulse Laser-Plasma Interactions," to be published in *Physical Review Letters*.

J. M. Soures, "Remarks of J. M. Soures at the Fusion Power Associates Panel Discussion," to be published in the *Journal of Fusion Energy*.

R. L. McCrory, J. M. Soures, C. P. Verdon, S. Skupsky, T. J. Kessler, S. A. Letzring, W. Seka, R. S. Craxton, R. Short, P. A. Jaanimagi, M. Skeldon, D. K. Bradley, J. Delettrez, R. L. Keck, H. Kim, J. P. Knauer, R. L. Kremens, and F. J. Marshall, "Laser Compression and Stability in Inertial Confinement Fusion," to be published in the *Proceedings of the 16th European Conference on Controlled Fusion and Plasma Physics*, Venice, Italy, 13–17 March 1989.

W. R. Donaldson, A. M. Kadin, P. H. Ballentine, and R. Sobolewski, "Interaction of Picosecond Optical Pulses with High-Tc Superconducting Films," to be published in *Applied Physics Letters*.

A. Simon and R. W. Short, "Comments on 'Studies of Raman Scattering from Overdense Targets Irradiated by Several Kilojoules of 0.53- μm Laser Light'," to be published in *Physics of Fluids*.

A. Simon and R. W. Short, "Energy and Nonlinearity Considerations for the Enhanced Plasma Wave Model of Raman Scattering," to be published in *Physics of Fluids*.

J. Nees, S. Williamson, and G. Mourou, "100-GHz Traveling-Wave Electro-Optic Phase Modulator," to be published in *Applied Physics Letters*.

T. B. Norris, N. Vodjdani, B. Vinter, C. Weisbuch, and G. A. Mourou, "Time-Resolved Observation of Luminescence from a Charge-Transfer State in Double Quantum Wells," to be published in the *Proceedings of Quantum Wells for Optics and Optoelectronics Conference*, Salt Lake City, UT, 6–8 March 1989.

T. B. Norris, X. J. Song, G. Wicks, W. J. Schaff, L. F. Eastman, and G. A. Mourou, "Electric Field Dependence of the Tunneling Escape Time of Electrons from a Quantum Well," to be published in the *Proceedings of the Picosecond Electronics and Optoelectronics Conference*, Salt Lake City, UT, 8–10 March 1989.

M. Pessot and G. Mourou, "Chirped Pulse Amplification of 100 fs Pulses," to be published in *Optics Letters*.

P. C. Cheng and H. G. Kim, "The Use of X-Ray Contact Micro-radiography in the Study of Silica Deposition in the Leaf Blade of *Zea*

mays L.,” to be published in the *Maize Genetics Cooperation News Letter*, Department of Agronomy and US Department of Agriculture.

D. L. Smith, J. H. Kelly, and M. J. Shoup, “A Low Cost Active-Active Oscillator Utilizing Loss Feedback Control,” to be published in *Applied Optics*.

J. C. Lambropoulos, “Analysis of Thermal Stress, Fracture and Strengthening by Ion Exchange in Glass for High Average Power Laser Applications,” to be published in the *Journal of Applied Physics*.

M. L. Tsai, S. H. Chen, and S. D. Jacobs, “Optical Notch Filter Using Thermotropic Liquid Crystalline Polymers,” to be published in *Applied Physics Letters*.

X. Zhou and T. Y. Hsiang, “Monte Carlo Study of Photo-Generated Carrier Transport in GaAs Surface Space Charge Fields,” to be published in the *Journal of Applied Physics*.

L. DaSilva, A. Ng, B. K. Godwal, G. Chiu, F. Collet, M. C. Richardson, P. A. Jaanimagi, and Y. T. Loe, “Shock-Induced Shifts in the Aluminum K-Photoabsorption Edge,” to be published in the *Physical Review Letters*.

Y. F. Maa and S. H. Chen, “Synthesis of Thermotropic Liquid Crystalline Side-Chain Polymers via Chemical Modification of Polymeric Carboxylic Acids,” to be published in *Macromolecules*.

M. L. Tsai, S. H. Chen, K. L. Marshall, and S. D. Jacobs, “Thermotropic and Optical Properties of Chiral Nematic Polymers,” to be published in *International Journal of Thermophysics*.

Conference Presentations

R. L. McCrory, “A Critical Scientific Review of ICF,” presented at the American Association for the Advancement of Science Annual Meeting, San Francisco, CA, 14–19 January 1989. (Presented by C. Verdon.)

The following presentations were made at the SPIE’s O-E/LASE 1989 Conference, Los Angeles, CA, 15–20 January 1989:

T. Kessler, S. Skupsky, R. S. Craxton, S. Letzring, R. Short, M. Skeldon, and J. M. Soures, “Elements of Beam Smoothing for the High-Power Solid-State Laser.”

J. H. Kelly, M. J. Shoup III, and D. L. Smith, “OMEGA Upgrade Staging Options.”

M. D. Perry, E. M. Campbell, J. T. Hunt, F. Patterson, G. Mourou, P. Bado, and P. Maine, “Ultra-High Brightness Laser Project at LLNL.”

The following presentations were made at the Picosecond Electronics Conference, Salt Lake City, UT, 6-10 March 1989:

T. B. Norris, X. J. Song, G. Wicks, W. J. Schaff, L. F. Eastman, and G. A. Mourou, "Electric Field Dependence of the Tunneling Escape Time of Electrons from a Quantum Well."

T. B. Norris, N. Vodjdani, B. Vinter, C. Weisbuch, and G. A. Mourou, "Time-Resolved Observation of Luminescence from a Charge-Transfer State in Double Quantum Wells."

F. W. Smith, H. Q. Le, V. Diadiuk, M. A. Hollis, A. R. Calawa, S. Gupta, M. Frankel, D. R. Dykaar, G. A. Mourou, and T. Y. Hsiang, "Picosecond GaAs Based Photoconductive Optoelectronic Detectors."

P. C. Cheng, V. H. Chen, H. G. Kim, and R. E. Pearson, "A Real-Time EPI-Fluorescent Confocal Microscope," presented at the 1st International Conference on Confocal Microscopy and 2nd International Conference on 3-D Image Processing in Microscopy, Amsterdam, The Netherlands, 15-17 March 1989.

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