
Publications and Conference Presentations

Publications

W. R. Donaldson, E. M. R. Michaels, K. Akowuah, and R. A. Falk, "Integrated Circuit Tester Using Interferometric Imaging," in *Electrochemical Society Proceedings Volume 97-12*, edited by P. Rai-Choudhury, J. Benton, D. Schroder, and T. J. Shaffner (The Electrochemical Society, Pennington, NJ, 1997), pp. 171-176.

B. E. Gillman, B. M. Reed, M. A. Atwood, J. L. Ruckman, D. J. Quesnel, T. T. Ochinerio, and S. D. Jacobs, "Application of Coolants in Deterministic Microgrinding of Glass," in *Optical Manufacturing and Testing II*, edited by H. P. Stahl (SPIE, Bellingham, WA, 1997), Vol. 3134, pp. 198-204.

D. Golini, S. Jacobs, W. Kordonski, and P. Dumas, "Precision Optics Fabrication Using Magnetorheological Finishing," in *Advanced Materials for Optics and Precision Structures*, edited by M. A. Ealey, R. A. Paquin, and T. B. Parsonage, Critical Reviews of Optical Science and Technology (SPIE, Bellingham, WA, 1997), Vol. CR67, pp. 251-274.

S. D. Jacobs, F. Yang, E. M. Fess, J. B. Feingold, B. E. Gillman, W. I. Kordonski, H. Edwards, and D. Golini, "Magnetorheological Finishing of IR Materials," in *Optical Manufacturing and Testing II*, edited by H. P. Stahl (SPIE, Bellingham, WA, 1997), Vol. 3134, pp. 258-269.

J. C. Lambropoulos, B. E. Gillman, Y. Zhou, S. D. Jacobs, and H. J. Stevens, "Glass-Ceramics: Deterministic Microgrinding, Lapping, and Polishing," in *Optical Manufacturing and Testing II*, edited by H. P. Stahl (SPIE, Bellingham, WA, 1997), Vol. 3134, pp. 178-189.

C. J. McKinstrie, J. S. Li, and A. V. Kanaev, "Near-Forward Stimulated Brillouin Scattering," *Phys. Plasmas* **4**, 4227 (1997).

D. D. Meyerhofer, "High-Intensity-Laser-Electron Scattering," *IEEE J. Quantum Electron.* **33**, 1935 (1997).

B. Nodland and C. J. McKinstrie, "Propagation of a Short Laser Pulse in a Plasma," *Phys. Rev. E* **56**, 7174 (1997).

S. Papernov and A. W. Schmid, "Localized Absorption Effects During 351-nm, Pulsed Laser Irradiation of Dielectric Multilayer Thin Films," *J. Appl. Phys.* **82**, 5422 (1997).

B. Yaakobi, F. J. Marshall, D. K. Bradley, J. A. Delettrez, R. S. Craxton, and R. E. Epstein, "Novel Methods for Diagnosing Mixing and Laser-Fusion Target Performance Using X-Ray Spectroscopy of an Embedded Titanium Layer," *Opt. Photonics News*, 42 (December 1997).

Forthcoming Publications

S. Alexandrou, C.-C. Wang, M. Currie, R. Sobolewski, and T. Y. Hsiang, "Characterization of Coplanar Transmission Lines at Subterahertz Frequencies," to be published in *IEEE Transactions on Microwave Theory and Techniques*.

E. L. Alfonso, S.-H. Chen, R. Q. Gram, and D. R. Harding, "Properties of Polyimide Shells Made Using Vapor Phase Deposition," to be published in the *Journal of Materials Research*.

A. Babushkin, W. Seka, S. A. Letzring, W. Bittle, M. Labuzeta, M. Miller, and R. G. Roides, "Multicolor Fiducial Laser for Streak Cameras and Optical Diagnostics for the OMEGA Laser System," to be published in the *Proceedings of the 22nd International Congress on High-Speed Photography and Photonics*, Santa Fe, NM, 27 October–1 November 1996.

R. Betti, "Beta Limits for the $N=1$ Mode in Rotating-Toroidal-Resistive Plasmas Surrounded by a Resistive Wall," to be published in *Physics of Plasmas*.

R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Feedthrough and Dynamic Stabilization in Convergent Geometry," to be published in the *Proceedings of the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP)*, Monterey, CA, 13–18 April 1997.

R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Growth Rates of the Ablative Rayleigh–Taylor Instability in Inertial Confinement Fusion," to be published in *Physics of Plasmas*.

R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Linear Theory of the Ablative Rayleigh–Taylor Instability," to be published in the *Proceedings of the 24th ECLIM*, Madrid, Spain, 3–7 June 1996.

T. R. Boehly, R. L. McCrory, S. J. Loucks, J. M. Soures, C. P. Verdon, A. Babushkin, R. E. Bahr, R. Boni, D. K. Bradley, D. L. Brown, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, J. P. Knauer, S. A. Kumpan, S. A. Letzring, D. J. Lonobile, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse,

A. Okishev, S. Papernov, G. Pien, W. Seka, R. Short, M. J. Shoup, III, M. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. Wittman, and B. Yaakobi, "The First Year of ICF Experiments on OMEGA—a 60-Beam, 60-TW Laser System," to be published in the *Proceedings of the 16th IAEA Fusion Energy Conference*, Montreal, Canada, 7–11 October 1996.

T. R. Boehly, R. L. McCrory, C. P. Verdon, W. Seka, S. J. Loucks, A. Babushkin, R. E. Bahr, R. Boni, D. K. Bradley, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, D. Harding, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, J. P. Knauer, D. J. Lonobile, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. Okishev, S. Papernov, G. Pien, T. Safford, J. D. Schnittman, R. Short, M. J. Shoup III, M. Skeldon, S. Skupsky, A. W. Schmid, V. A. Smalyuk, D. J. Smith, J. M. Soures, M. Wittman, and B. Yaakobi, "Inertial Confinement Fusion Experiments with OMEGA—a 30-kJ, 60-Beam UV Laser," to be published in the *Proceedings of the 1997 IAEA Conference*, Osaka, Japan, 10–14 March 1997.

T. R. Boehly, V. A. Smalyuk, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, C. P. Verdon, and D. Kalantar, "The Effect of Increased Irradiation Uniformity on Imprinting by 351-nm Laser Light," to be published in the *Proceedings of the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP)*, Monterey, CA, 13–18 April 1997.

D. K. Bradley and P. M. Bell, "Implementation of 30-ps Temporal Resolution Imaging on the OMEGA Laser System," to be published in the *Proceedings of the 22nd International Congress on High-Speed Photography and Photonics*, Santa Fe, NM, 27 October–1 November 1996.

B. Buerke, J. P. Knauer, S. J. McNaught, and D. D. Meyerhofer, "Precision Tests of Laser-Tunneling Ionization Models," to be published in the *Applications of High Field and Short Wavelength Sources VII*, 1997 OSA Technical Digest Series.

J. L. Chaloupka, T. J. Kessler, and D. D. Meyerhofer, "A Three-Dimensional Ponderomotive Trap for High-Energy Electrons," to be published in the *Applications of High Field and Short Wavelength Sources VII*, 1997 OSA Technical Digest Series.

A. V. Chirokikh, W. Seka, A. Simon, and R. S. Craxton, "Brillouin Scattering in Long-Scale-Length Laser Plasmas," to be published in *Physics of Plasmas*.

T. J. B. Collins, H. L. Helfer, and H. M. Van Horn, "Accretion Disk and Boundary Layer Models Incorporating OPAL Opacities," to be published in *Astrophysical Journal*.

S. Cremer, C. P. Verdon, and R. D. Petrasso, "Tertiary Proton Diagnostics in Future ICF Experiments," to be published in *Physics of Plasmas*.

M. Currie, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, "Picosecond Nodal Testing of Centimeter-Size Superconducting Microstrip Interconnects," to be published in *Applied Superconductivity*.

F. Dahmani, J. C. Lambropoulos, A. W. Schmid, S. Papernov, and S. J. Burns, "Fracture of Fused Silica with 351-nm-Laser-Generated Surface Cracks," to be published in the *Journal of Applied Physics*.

B. DeMarco, C. W. Barnes, K. Kearney, and R. L. Kremens, "Neutron Yield Measurement on the OMEGA Laser System," to be published in the *Review of Scientific Instruments*.

P. M. Fauchet, "Porous Silicon: Photoluminescence and Electroluminescent Devices," to be published in the *Light Emission in Silicon, Semiconductors, and Semimetals Series*.

D. Fried, R. E. Glena, J. D. B. Featherstone, and W. Seka, "Permanent and Transient Changes in the Reflectance of CO₂ Laser-Irradiated Dental Hard Tissues at $\lambda = 9.3, 9.6, 10.3$, and $10.6 \mu\text{m}$ and at Fluences between $1\text{--}20 \text{ J/cm}^2$," to be published in *Lasers in Surgery and Medicine*.

R. E. Giacone, C. J. McKinstrie, and R. Betti, "Response to Comment on 'Angular Dependence of Stimulated Brillouin Scattering in Homogeneous Plasma' [Phys. Plasmas **2**, 4596 (1995)]," to be published in *Physics of Plasmas*.

B. E. Gillman and S. D. Jacobs, "Bound Abrasive Polishers for Optical Glass," to be published in the *Journal of Applied Optics*.

W. Göb, W. Lang, and R. Sobolewski, "Magnetoresistance of a YBa₂Cu₃O₇ Corbino Disk: Probing Geometrical Contributions to the Unconventional Normal-State Magne-

toresistance of High-Temperature Superconductors," to be published in *Physical Review B: Rapid Communications*.

K. Green, M. Lindgren, C.-C. Wang, L. Fuller, T. Y. Hsiang, W. Seka, and R. Sobolewski, "Picosecond Photoresponse in Polycrystalline Silicon," to be published in the *Proceedings of Ultrafast Electronics and Optoelectronics*, Incline Village, NV, 17–21 March 1997.

M. J. Guardalben, "Conoscopic Alignment Methods for Birefringent Optical Elements in Fusion Lasers," to be published in *Optics & Photonics News*.

O. E. Hanuch, V. B. Agrawal, S. Papernov, M. delCerro, and J. V. Aquavella, "Posterior Capsular Polishing with the Nd:YLF Picosecond Laser: Model Eye Study," to be published in *Investigative Ophthalmology*.

S. D. Jacobs, W. I. Kordonski, and H. M. Pollicove, "Precision Control of Aqueous Magnetorheological Fluids for Finishing of Optics" to be published in the *Proceedings of ERMR 1997*, 6th International Conference on Electrorheological Fluids, Magnetorheological Suspensions, and Their Applications, Yonezawa, Japan, 22–25 July 1997.

D. Jacobs-Perkins, M. Currie, K. T. Tang, C.-C. Wang, C. Williams, W. R. Donaldson, R. Sobolewski, and T. Y. Hsiang, "Subpicosecond Electro-Optic Imaging Using Interferometric and Polarization-Based Apparatus," to be published in the *Proceedings of Ultrafast Electronics and Optoelectronics*, Incline Village, NV, 17–21 March 1997.

R. L. Keck, A. V. Okishev, M. D. Skeldon, A. Babushkin, and W. Seka, "Pulse Shaping on the OMEGA Laser System," to be published in the *Proceedings of the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP)*, Monterey, CA, 13–18 April 1997.

T. J. Kessler, Y. Lin, L. S. Iwan, W. P. Castle, C. Kellogg, J. Barone, E. Kowaluk, A. W. Schmid, K. L. Marshall, D. J. Smith, A. L. Rigatti, J. Warner, and A. R. Staley, "Laser Phase Conversion Using Continuous Distributed Phase Plates," to be published in the *Proceedings of the Second Annual International Conference on Solid-State Lasers for Application to Inertial Confinement Fusion (ICF)*, Paris, France, 22–25 October 1996.

J. P. Knauer, D. D. Meyerhofer, T. R. Boehly, D. Ofer, C. P. Verdon, D. K. Bradley, P. W. McKenty, V. A. Smalyuk, S. G. Glendinning, and R. G. Watt, "Single-Mode Rayleigh–Taylor Growth-Rate Measurements with the OMEGA Laser System," to be published in the Proceedings of the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

J. P. Knauer, C. P. Verdon, R. Betti, D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, V. A. Smalyuk, P. W. McKenty, S. G. Glendinning, D. H. Kalantar, R. G. Watt, P. L. Gobby, O. Willi, and R. J. Taylor, "Single-Mode Rayleigh–Taylor Growth-Rate Measurements with the OMEGA Laser System," to be published in *Physical Review E*.

E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Cholesteric Liquid Crystal Flakes—a New Form of Domain," to be published in *Molecular Crystals and Liquid Crystals*.

E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Cholesteric Liquid Crystal Transmission Profile Asymmetry," to be published in *Molecular Crystals and Liquid Crystals*.

E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Color Gamut of Cholesteric Liquid Crystal Films and Flakes by Standard Colorimetry," to be published in *COLOR Research and Application*.

K. S. Lebedev, E. A. Magulariya, S. G. Lukishova, S. V. Belyaev, N. V. Malimonenko, and A. W. Schmid, "Reflective Nonlinearities of Nonabsorbing Chiral Liquid Crystals: Frustration of Selective Reflection by Powerful Laser Radiation," to be published in the *Bulletin of the American Physical Society*.

M. Lindgren, M. Currie, C. Williams, T. Y. Hsiang, P. M. Fauchet, S. H. Moffat, R. A. Hughes, J. S. Preston, and F. A. Hegmann, "Ultrafast Photoresponse and Pulse Propagation in High- T_c Superconducting Y-Ba-Cu-O Thin Film Devices," to be published in the *IEEE Journal on Selected Topics in Quantum Electronics*.

M. Lindgren, M. Currie, C. Williams, T. Y. Hsiang, P. M. Fauchet, R. Sobolewski, S. H. Moffat, R. A. Hughes, J. S. Preston, and F. A. Hegmann, "Intrinsic Photoresponse of a Y-Ba-Cu-O Superconductor," to be published in *Physical Review B*.

M. Lindgren, W.-S. Zeng, M. Currie, C. Williams, T. Y. Hsiang, P. M. Fauchet, R. Sobolewski, S. H. Moffat, R. A. Hughes, J. S. Preston, and F. A. Hegmann, "An Ultrafast High- T_c Superconducting Y-Ba-Cu-O Photodetector," to be published in the Proceedings of Ultrafast Electronics and Optoelectronics, Incline Village, NV, 17–21 March 1997.

M. Lindgren, W.-S. Zeng, M. Currie, R. Sobolewski, S. Cherednichenko, B. Voronov, and G. N. Gol'tsman, "Picosecond Response of a Superconducting Hot-Electron NbN Photodetector," to be published in *Applied Superconductivity*.

S. G. Lukishova, S. V. Belyaev, K. S. Lebedev, E. A. Magulariya, A. W. Schmid, and N. V. Malimonenko, "cw and High-Repetition-Rate Lasing in Nd:YAG Resonators with Chiral-Nematic Liquid-Crystal Mirrors: A Study of Nonlinear Responses," to be published in *Quantum Electronics*.

S. G. Lukishova, S. V. Belyaev, K. S. Lebedev, E. A. Magulariya, A. W. Schmid, and N. V. Malimonenko, "Nonlinear Bleaching in the Selective Reflection of Nonabsorbing Chiral-Nematic Liquid-Crystal Thin Films," to be published in *JETP Letters* and in *Molecular Crystals and Liquid Crystals*.

F. J. Marshall, M. M. Allen, J. P. Knauer, J. A. Oertel, and T. Archuleta, "A High-Resolution X-Ray Microscope for Laser-Driven Planar-Foil Experiments," to be published in *Physics of Plasmas*.

K. L. Marshall, J. Haddock, N. Bickel, D. Singel, and S. D. Jacobs, "Angular-Scattering Characteristics of Ferroelectric Liquid Crystal Electro-Optical Devices Operating in the TSM and ESM Modes," to be published in the *Journal of Applied Optics*.

S. M. McCormack, D. Fried, J. D. B. Featherstone, R. E. Glena, and W. Seka, "Scanning Electron Microscope Observations of CO₂ Laser Effects on Dental Enamel," to be published in the *Journal of Dental Research*.

R. L. McCrory, "The LLE Direct-Drive Target Physics Experimental Program: First Year of ICF Experiments on OMEGA," to be published in the Proceedings of the 24th ECLIM, Madrid, Spain, 3–7 June 1996 (invited).

C. J. McKinstrie, A. V. Kanaev, V. T. Tikhonchuk, R. E. Giacone, and H. X. Vu, "Three-Dimensional Analysis of the Power Transfer Between Crossed Laser Beams," to be published in *Physics of Plasmas*.

C. J. McKinstrie and E. J. Turano, "Non-relativistic Motions of a Charged Particle in an Electromagnetic Field," to be published in the Journal of Plasma Physics.

J. J. Ou and S.-H. Chen, "Molecular Dynamics Simulation of Organic Glass-Formers. I. *ortho*-Terphenyl and 1,3,5-Tri- α -Naphthyl Benzene," to be published in the Journal of Computational Chemistry.

S. Papernov, A. W. Schmid, and D. Zaksas, "Characterization of Freestanding Polymer Films for Application in 351-nm, High-Peak-Power Laser Systems," to be published in Optical Engineering.

S. Papernov, A. W. Schmid, and F. Dahmani, "Laser Damage in Polymer Waveguides Driven Purely by a Nonlinear, Transverse-Scattering Process," to be published in Optics Letters.

S. Papernov, A. W. Schmid, J. F. Anzellotti, D. J. Smith, D. R. Collier, and F. A. Carbone, "One Step Closer to the Intrinsic Laser Damage Threshold of HfO_2 and SiO_2 Monolayer Thin Films," to be published in the Proceedings of the 30th Annual Boulder Damage Symposium, Boulder, CO, 6–8 October 1997.

R. D. Petrasso, C. K. Li, M. D. Cable, S. M. Pollaine, S. W. Haan, T. P. Bernat, J. D. Kilkenny, S. Cremer, J. P. Knauer, C. P. Verdon, and R. L. Kremens, "Implosion Symmetry and ρR Measurements of the National Ignition Facility from Nascent 31-MeV Tertiary Protons," to be published in Physical Review Letters.

A. L. Rigatti and D. J. Smith, "Status of Optics on the OMEGA Laser System after 18 Months of Operation," to be published in the Proceedings of the XXVIII Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 7–9 October 1996.

J. Z. Roach, A. Ninkov, S. W. Swales, and T. Morris, "Design and Evaluation of a Screen CCD Imaging System," to be published in Optical Engineering.

W. Seka, A. Babushkin, T. R. Boehly, D. K. Bradley, M. D. Cable, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, R. L. Kremens, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. V. Okishev, G. Pien, M. D. Skeldon, J. M. Soures, C. P.

Verdon, B. Yaakobi, and J. D. Zuegel, "OMEGA Experimental Program and Recent Results," to be published in the Proceedings of the Thirteenth International Conference on Laser Interactions and Related Plasma Phenomena (LIRPP), Monterey, CA, 13–18 April 1997.

H. Shi, B. M. Conger, D. Katsis, and S.-H. Chen, "Circularly Polarized Fluorescence from Chiral Nematic Liquid Crystalline Films: Theory and Experiment," to be published in Liquid Crystals.

A. Simon, "Comparison Between SBS Theories and Experiment," to be published in the Proceedings of the LaJolla Summer School '95, Plasma Physics and Technology (AIP).

M. D. Skeldon, A. Babushkin, J. D. Zuegel, R. L. Keck, A. Okishev, and W. Seka, "Modeling of an Actively Stabilized Regenerative Amplifier for OMEGA Pulse-Shaping Applications," to be published in the Proceedings of the Second Annual International Conference on Solid-State Lasers for Application to ICF, Paris, France, 22–25 October 1996.

M. D. Skeldon, A. Babushkin, W. Bittle, A. V. Okishev, and W. Seka, "Modeling the Temporal-Pulse-Shape Dynamics of an Actively Stabilized Regenerative Amplifier for OMEGA Pulse-Shaping Applications," to be published in IEEE Journal of Quantum Electronics.

M. D. Skeldon, R. Saager, and W. Seka, "Quantitative Pump-Induced Wavefront Distortions in Laser-Diode- and Flash-Lamp-Pumped Nd:YLF Laser Rods," to be published in IEEE Journal of Quantum Electronics.

D. J. Smith, J. F. Anzellotti, S. Papernov, and Z. R. Chrzan, "High Laser-Induced-Damage Threshold Polarizer Coatings for 1054 nm," to be published in the Proceedings of the XXVIII Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 7–9 October 1996.

C. Stockinger, W. Markowitsch, W. Lang, W. Kula, and R. Sobolewski, "Mechanisms of Photodoping in Oxygen-Deficient $\text{YBa}_2\text{Cu}_3\text{O}_x$ Films Studied by *In-Situ* Transport," to be published in Physical Review B.

B. Yaakobi and F. J. Marshall, "Imaging the Cold, Compressed Shell in Laser Implosions Using the $K\alpha$ Fluorescence of a Titanium Dopant," to be published in Physical Review E.

F. Yang, D. Golini, D. H. Raguin, and S. D. Jacobs, "Planarization of Gratings Using Magnetorheological Finishing," to be published in the Proceedings: Session P—Semiconductor Surface Preparation, MRS Spring Meeting, San Francisco, CA, 2 April 1997.

M. Yu, C. J. McKinstrie, and G. P. Agrawal, "Temporal Modulational Instabilities of Counterpropagating Light Waves in a Finite Dispersive Kerr Medium, Part I: Theoretical Model and Analysis," to be published in the Journal of the Optical Society of America B.

M. Yu, C. J. McKinstrie, and G. P. Agrawal, "Temporal Modulational Instabilities of Counterpropagating Light Waves in a Finite Dispersive Kerr Medium, Part II: Application to Fabry-Perot Cavities," to be published in the Journal of the Optical Society of America B.

J. D. Zuegel and W. Seka, "Direct Measurements of Lower-Level Lifetime in Nd:YLF," to be published in the Bulletin of the American Physical Society.

J. D. Zuegel and W. Seka, "Upconversion and Reduced $^4F_{3/2}$ Upper-State Lifetime in Intensely Pumped Nd:YLF," to be published in Optics Letters.

Conference Presentations

The following presentations were made at the XXIX Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, 6–8 October 1997:

S. Papernov, D. Zaksas, and A. W. Schmid, "A Nonlinear UV-Damage Mechanism in Polymer Thin Films Observed from Below to Above Damage Threshold."

S. Papernov, D. Zaksas, and A. W. Schmid, "Perfluorinated Polymer Films with Extraordinary UV-Laser-Damage Resistance."

S.-H. Chen, J. C. Mastrangelo, B. M. Conger, and D. Katsis, "Design, Synthesis, and Potential Application of Glass-Forming Functional Organic Materials," 6th International Polymer Conference, Kusatsu, Japan, 20–24 October 1997 (invited).

The following presentations were made at the 39th Annual Meeting, APS Division of Plasma Physics, Pittsburgh, PA, 17–21 November 1997:

R. Betti and E. Fedutenko, "Beta Limits in Rotating-Toroidal Plasmas."

T. R. Boehly, V. A. Smalyuk, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, C. P. Verdon, and D. Kalanter, "The Reduction of Laser Imprinting Produced by Distributed Polarization Rotators—A New Beam-Smoothing Technique."

D. K. Bradley, "Measurements of Fuel–Pusher Mixing in Spherical Imploding Targets on the OMEGA Laser System" (invited).

J. J. Carroll III, R. P. Drake, T. B. Smith, N. A. Maslov, W. Seka, D. D. Meyerhofer, and R. S. Craxton, "Optical Spectroscopy System for Use on OMEGA Long-Scale-Length Plasma Experiments."

A. V. Chirikikh, R. S. Craxton, D. D. Meyerhofer, A. Simon, W. Seka, and R. P. Drake, "Stimulated Brillouin Scattering in Plasmas with Long-Density-Scale Lengths on OMEGA."

R. S. Craxton, D. K. Bradley, A. V. Chirikikh, D. D. Meyerhofer, W. Seka, B. Yaakobi, and R. P. Drake, "Design of Long-Scale-Length Plasma Experiments on OMEGA."

J. A. Delettrez, D. K. Bradley, R. Epstein, and C. P. Verdon, "Two-Dimensional Modeling of Imprint and Feedthrough in OMEGA Mix Spherical Experiments."

R. Epstein, J. A. Delettrez, D. K. Bradley, and C. P. Verdon, "Simulations in One Dimension of Unstable Mix in Laser-Driven Implosion Experiments."

- E. Fedutenko and R. Betti, "Second Stability Region for Low- n External Kinks."
- V. N. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, "Linear Evolution of the Outer and Inner Surfaces of Imploding Spherical Shells."
- A. V. Kanaev, C. J. McKinstrie, V. T. Tikhonchuk, R. E. Giacone, and H. X. Vu, "Three-Dimensional Analysis of the Power Transfer Between Crossed Laser Beams."
- J. P. Knauer, C. P. Verdon, R. Betti, D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, and V. A. Smalyuk, "Comparison of Experimentally Measured Rayleigh-Taylor Growth to Hydrodynamic Simulations."
- V. Lobatchev, R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Dynamic Stabilization of Imploding Cryogenic Capsules."
- F. J. Marshall, D. K. Bradley, J. A. Delettrez, P. A. Jaanimagi, R. L. Kremens, C. P. Verdon, B. Yaakobi, and M. D. Cable, "Further Surrogate Cryogenic Target Experiments on OMEGA."
- P. W. McKenty, R. L. Keck, R. L. Kremens, K. J. Kearney, C. P. Verdon, J. D. Zuegel, M. D. Cable, T. J. Ognibene, R. A. Lerche, and R. L. Griffith, "Initial Neutron Burn Truncation Experiments on OMEGA."
- D. D. Meyerhofer, D. K. Bradley, A. V. Chirikikh, R. S. Craxton, W. Seka, R. P. J. Town, B. Yaakobi, and R. P. Drake, "Characterization of Long-Scale-Length Plasmas Created Using the OMEGA Laser System."
- T. J. Murphy, J. Wallace, K. A. Klare, J. A. Oertel, C. W. Barnes, N. D. Delamater, P. Gobby, A. A. Hauer, E. Lindman, G. Magelssen, O. L. Landen, S. Pollaine, P. Amendt, C. Decker, L. Suter, B. Hammel, R. Turner, R. Wallace, R. S. Craxton, F. J. Marshall, D. Bradley, D. Harding, K. Kearney, R. Keck, J. Knauer, R. Kremens, W. Seka, M. Cable, and J. Schnittman, "Experiments Utilizing Spherical Hohlraums with Tetrahedral Illumination on OMEGA."
- W. Seka, D. D. Meyerhofer, A. V. Chirikikh, D. K. Bradley, R. S. Craxton, and A. Simon, "Laser-Plasma-Interaction Physics on OMEGA Implosion Experiments."
- R. W. Short and A. Simon, "Collisionless Damping of Localized Plasma Waves and Stimulated Raman Scattering in Laser-Produced Plasmas."
- A. Simon and R. W. Short, "Transit-Time Damping, Landau Damping, and Perturbed Orbits."
- V. A. Smalyuk, T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. Bradley, W. Seka, and C. P. Verdon, "Studies of the 3-D Evolution of Imprinting in Planar Targets Accelerated by UV Light."
- R. P. J. Town, R. W. Short, C. P. Verdon, B. B. Afeyan, S. H. Glenzer, and L. J. Suter, "The Role of Nonlocal Heat Flow in Hohlraums."
- E. J. Turano, C. J. McKinstrie, and A. V. Kanaev, "Oblique Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel."
- J. M. Wallace, K. A. Klare, T. J. Murphy, N. D. Delamater, E. L. Lindman, G. R. Magelssen, A. A. Hauer, S. M. Pollaine, R. E. Turner, R. S. Craxton, and J. D. Schnittman, "Analysis of Indirect-Drive, Tetrahedral-Hohlraum Experiments at OMEGA."
- J. D. Zuegel, R. L. Kremens, K. J. Kearney, P. W. McKenty, C. P. Verdon, and M. D. Cable, "Wide-Dynamic-Range, Neutron Bang Time Detector on OMEGA."
- S. D. Jacobs, H. M. Pollicove, W. I. Kordonski, and D. Golini, "Magnetorheological Finishing (MRF) in Deterministic Optics Manufacturing," ICPE '97, Taipei, Taiwan, 20-22 November 1997.
- D. Katsis, S.-H. Chen, H. Shi, and A. W. Schmid, "Circular Dichroism Induced in Chiral-Nematic Films," Materials Research Society 1997 Fall Meeting, Boston, MA, 1-5 December 1997.