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## Publications and Conference Presentations

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### Publications

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- T. R. Boehly, R. S. Craxton, T. H. Hinterman, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, "The Upgrade to the OMEGA Laser System," *Rev. Sci. Instrum.* **66**, 508 (1995).
- X. D. Cao, L. Zheng, and D. D. Meyerhofer, "Measurement of Group-Velocity Walk-Off of Short Pulses in Nonlinear Crystals: A Novel Method," *Opt. Lett.* **20**, 392 (1995).
- M. J. Cumbo, D. Fairhurst, S. D. Jacobs, and B. E. Puchebner, "The Effect of Chemically Modulated Surface Charge in the Polishing of Optical Glass," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), pp. 134–137.
- M. Currie, C.-C. Wang, D. Jacobs-Perkins, R. Sobolewski, and T. Y. Hsiang, "An Optoelectronic Testing System of Rapid, Single-Flux Quantum Circuits," *IEEE Trans. Appl. Supercond.* **5**, 2849 (1995).
- J. D. B. Featherstone, N. A. Barrett-Vesponc, D. Fried, Z. Kantorowitz, J. Lofthouse, and W. Seka, "Rational Choice of Laser Conditions for Inhibition of Caries Progression," in *Lasers in Dentistry* (SPIE, Bellingham, WA, 1995), Vol. 2394, pp. 57–67.
- D. Fried, R. E. Glens, J. D. B. Featherstone, and W. Seka, "Multiple Pulse Irradiation of Dental Hard Tissues at CO<sub>2</sub> Laser Wavelengths," in *Lasers in Dentistry* (SPIE, Bellingham, WA, 1995), Vol. 2394, pp. 41–50.
- P. D. Funkenbusch, Y. Y. Zhou, C. Lohnes, D. J. Quesnel, S. D. Jacobs, B. E. Puchebner, D. Golini, and A. Lindquist, "Deterministic Microgrinding of Glass with Polycrystalline Diamond Tools," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), pp. 36–39.
- D. Gupta, W. R. Donaldson, and A. M. Kadin, "Transient Flux Dynamics in Optically Irradiated YBCO Thin-Film Switches," *IEEE Trans. Appl. Supercond.* **5**, 1371 (1995).
- S. D. Jacobs, "Finish Polishing of Optics with Magnetic Media," in *International Progress in Precision Engineering*, edited by M. Bonis *et al.* (Elsevier, 1995), pp. 357–360 (invited).
- S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Stafford, W. I. Kordonsky, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonsky, "Magnetorheological Finishing: Toward Cylinders, Toroids, and Aspheric Optics," in *International Progress in Precision Engineering*, edited by M. Bonis *et al.* (Elsevier, 1995), pp. 371–374.
- W. I. Kordonsky, I. V. Prokhorov, B. E. Kashevsky, S. D. Jacobs, B. E. Puchebner, Y. Hsu, D. Pietrowski, and D. Stafford, "Basic Properties of Magnetorheological Fluids for Optical Finishing," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), pp. 104–106.
- W. I. Kordonsky, I. V. Prokhorov, S. D. Jacobs, B. E. Puchebner, Y. Hsu, D. Pietrowski, and D. Stafford, "Glass Polishing Experiments Using Magnetorheological Fluids," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), pp. 107–109.
- W. Kula, W. Xiong, R. Sobolewski, and J. Talvacchio, "Laser Patterning of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> Thin Films Protected by *In-Situ* Grown SrTiO<sub>3</sub> Cap Layers," *IEEE Trans. Appl. Supercond.* **5**, 1177 (1995).

- W. Lang, G. Heine, W. Kula, and R. Sobolewski, "Superconducting Fluctuations in  $\text{Bi}_2\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_x$  Thin Films: Paraconductivity, Excess Hall Effect, and Magnetoconductivity," *Phys. Rev. B* **51**, 9180 (1995).
- Y. Lin, T. J. Kessler, and G. Lawrence, "Distributed Phase Plates for Supergaussian Focal-Plane Irradiance Profiles," *Opt. Lett.* **20**, 764 (1995).
- J. C. Mastrangelo, T. N. Blanton, and S.-H. Chen, "Crystallization upon Thermal Annealing of a Glass-Forming Liquid Crystal in the Nematic Regime," *Appl. Phys. Lett.* **66**, 2212 (1995).
- C. J. McKinstrie, R. Betti, R. E. Giacone, T. Kolber, and E. J. Turano, "Two-Dimensional Stimulated Raman Scattering of Short Laser Pulses," *Phys Rev. E* **51**, 3752 (1995).
- W. Ng, B. E. Puchebner, and S. D. Jacobs, "Evaluation of Bound Abrasive Media for Fabrication of Ring Tool Polishers," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), pp. 114–116.
- B. E. Puchebner, A. Feltz, W. Ng, and S. D. Jacobs, "Coolant Performance in Bound Diamond Ring Tool Grinding of K7 Optical Glass," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), pp. 40–43.
- B. E. Puchebner, A. Feltz, and S. Patterson, "The Effect of Additives in a Commercial Coolant on the Glass Grinding Process," in *Optical Fabrication and Testing Workshop*, Vol. 13, 1994 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1994), p. 44.
- W. Seka, D. Fried, J. D. B. Featherstone, and S. F. Borzillary, "Light Deposition in Dental Hard Tissue and Simulated Thermal Response," *J. Dent. Res.* **74**, 1086 (1995).
- W. Seka, D. Fried, J. D. B. Featherstone, and R. E. Glens, "Time-Dependent Reflection and Surface Temperatures during  $\text{CO}_2$  Laser Irradiation of Dental Hard Tissues with 100-Microsecond Pulses," in *Proceedings of Lasers in Dentistry* (SPIE, Bellingham, WA, 1995), Vol. 2394, pp. 51–56.
- H. Shi and S.-H. Chen, "Novel Glass-Forming Liquid Crystals. II. Systems Containing 1-phenyl-2-(6-cyanonaphth-2-yl) ethyne as a High Optical Birefringence Moiety," *Liq. Cryst.* **18**, 733 (1995).
- M. D. Skeldon, "Transverse Modulational Instabilities in the Presence of Stimulated Rotational Raman Scattering with a High-Energy Laser," *Opt. Lett.* **20**, 828 (1995).
- R. Sobolewski and T. Y. Hsiang, "Progress in Ultrafast Superconducting Electronics," in *Superconductivity and Particle Detection*, edited by T. A. Girard, A. Morales, and G. Waysand (World Scientific, Singapore, 1995), pp. 279–289 (invited).
- C.-C. Wang, M. Currie, and T. Y. Hsiang, "Ultrafast, Integrable, Optics-Based Interface between Superconducting and Room-Temperature Electronics," *IEEE Trans. Appl. Supercond.* **5**, 3156 (1995).
- C.-C. Wang, M. Currie, D. Jacobs-Perkins, M. J. Feldman, R. Sobolewski, and T. Y. Hsiang, "Optoelectronic Generation and Detection of Single-Flux-Quantum Pulses," *Appl. Phys. Lett.* **66**, 3325 (1995).
- M. Yu, G. P. Agrawal, and C. J. McKinstrie, "Pump-Wave Effects on the Propagation of Noisy Signals in Nonlinear Dispersive Media," *J. Opt. Soc. Am. B* **12**, 1126 (1995).
- L. Zheng and D. D. Meyerhofer, "Cross-Correlation Technique for Single-Shot Measurements of Weak Light Pulses," *Opt. Lett.* **20**, 407 (1995).

## Forthcoming Publications

R. Adam, W. Kula, and R. Sobolewski, "Laser-Induced Modification of Transport Properties of Y-Ba-Cu-O Step-Edge Weak Links," to be published in *Applied Physics Letters*.

M. S. Adams, M. V. Fedorov, V. P. Krainov, and D. D. Meyerhofer, "Comparison of Quasiclassical and Exact Dipole Moments for Bound-Free Transitions in Hydrogen," to be published in *Physical Review A*.

R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Self-Consistent Cutoff Wave Number of the Ablative Rayleigh-Taylor Instability," to be published in *Physics of Plasmas*.

T. R. Boehly, R. S. Craxton, T. H. Hinterman, P. A. Jaanimagi, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Kumpan, S. A. Letzring, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, and C. P. Verdon, "The Upgrade to the OMEGA Laser System," to be published in the Proceedings of the American Nuclear Society and the Proceedings of IAEA, Paris, France, 14–18 November 1994.

X. D. Cao and D. D. Meyerhofer, "Optimization of Pulse Shaping Using Nonlinear Polarization Rotation," to be published in *Optics Communications*.

S.-H. Chen, J. C. Mastrangelo, H. Shi, A. Bashir-Hashemi, J. Li, and N. Gelber, "Novel Glass-Forming Materials Based on Adamantane with Pendant Cholesteryl, Disperse Red 1, and Nematogenic Groups," to be published in *Macromolecules*.

S.-H. Chen, H. Shi, J. C. Mastrangelo, and T. N. Blanton, "Design, Synthesis, and Stability of Organic Glasses for Advanced Optical Applications," to be published in *Polymer Preprints*, American Chemical Society.

C. T. Cotton, "The Design of an All-Spherical, Three-Mirror, Off-Axis Telescope Objective," to be published in the OSA Proceedings of the International Optical Design Conference '94, Rochester, NY.

M. J. Cumbo, D. Fairhurst, S. D. Jacobs, and B. E. Puchebner, "Slurry Particle Size Evolution during the Polishing of Optical Glass," to be published in *Applied Optics*.

P. M. Fauchet, L. Tsybeskov, C. Peng, S. P. Duttgupta, J. von Behren, Y. Kostoulas, J. V. Vandyshev, and K. D. Hirshman, "Light-Emitting Porous Silicon: Materials Science, Properties, and Device Applications," to be published in *IEEE Journal of Selected Topics in Quantum Electronics*.

D. Fried, R. E. Glens, J. D. B. Featherstone, and W. Seka, "Permanent and Transient Changes in the Reflectance of CO<sub>2</sub> 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, "Angular Dependence of Stimulated Brillouin Scattering in Homogeneous Plasma," to be published in *Physics of Plasmas*.

V. N. Goncharov and R. Betti, "Growth Rate of the Ablative Rayleigh-Taylor Instability for Indirect-Drive ICF," to be published in *Physics of Plasmas*.

D. Gupta, W. R. Donaldson, and A. M. Kadin, "Rapid Flux Motion and Critical State Dynamics in a Superconducting Disk," to be published in the *Journal of Applied Physics*.

J. Hecht, D. Ofer, U. Alon, D. Shvarts, S. A. Orszag, and R. L. McCrory, "Three-Dimensional Simulations and Analysis of the Nonlinear Stage of the Rayleigh-Taylor Instability," to be published in *Laser and Particle Beams*.

F. A. Hegmann, D. Jacobs-Perkins, S. H. Moffat, C.-C. Wang, R. A. Hughes, M. Currie, P. M. Fauchet, T. Y. Hsiang, J. S. Preston, and R. Sobolewski, "Electro-Optic Sampling of Picosecond Photoresponse Signals from YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7- $\delta$</sub>  Thin Films," to be published in *Applied Physics Letters*.

S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, W. I. Kordonsky, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonsky, "Magnetorheological Finishing: A Deterministic Process for Optics Manufacturing," to be published in the Proceedings of the International Conference on Optical Fabrication and Testing (SPIE Vol. 2576) (invited).

E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Cholesteric Liquid Crystal Inks and Paints," to be published in *Research Highlights of the Army Research Office Physics Division*.

- Y. Kostoulas, K. B. Ucer, L. Waxer, G. W. Wicks, I. A. Walmsley, and P. M. Fauchet, "Ultrafast Carrier Lifetime in Low-Temperature-Grown GaAs, InP, and InGaP," to be published in the Proceedings of LEOS '94 7th Annual Meeting, Boston, MA, 31 October–3 November 1994.
- W. Kula, R. Adam, and R. Sobolewski, "Y-Ba-Cu-O Thin-Film Structures with a Nonuniform In-Depth Oxygen Concentration Profile," to be published in the Institute of Physics Conference Series.
- W. Lang, W. Göb, W. Kula, and R. Sobolewski, "Anisotropic Magnetoresistance in the Normal State of Oxygen-Deficient  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  Thin Films Induced by Superconducting Fluctuations," to be published in Zeitschrift Für Physik B.
- R. S. Marjoribanks, F. W. Budnik, H. Chen, and D. D. Meyerhofer, "Plasma Electron Temperature in Picosecond Laser Plasmas from Quasi-Steady Ratio of Isoelectronic Lines," to be published in the Journal of the Optical Society of America B.
- K. L. Marshall, S. D. Jacobs, and J. E. Miller, "Midinfrared Modulation through the Use of Field-Induced Scattering in Ferroelectric Liquid Crystals," to be published in Applied Optics.
- J. C. Mastrangelo, T. N. Blanton, and S.-H. Chen, "Morphology and Its Stability of Cyclohexane and Biocyclooctene Rings Containing Pendant Disperse Red 1," to be published in Chemistry of Materials.
- R. L. McCrory, "Progress Toward Ignition with Direct-Drive," to be published in Concerning Major Systems in Science and Technology.
- R. L. McCrory, J. M. Soures, C. P. Verdon, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Deletrez, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, H. Kim, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, F. J. Marshall, P. J. McKenty, S. F. B. Morse, A. Okishev, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, M. Tracy, and B. Yaakobi, "Direct-Drive Laser Fusion Experimental Program at the University of Rochester Laboratory for Laser Energetics," to be published in the Proceedings of the Conference on Plasma Physics and Controlled Nuclear Fusion Research, Madrid, Spain, September 1994.
- C. J. McKinstrie and E. A. Startsev, "Wave Propagation in a Drifting Plasma," to be published in Physics of Plasmas.
- D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, "Observation of Relativistic Quiver Effects during High-Intensity Laser-Electron Interactions," to be published in the Journal of the Optical Society of America B.
- S. S. Papernov and A. W. Schmid, "A Comparison of Laser-Induced Damage Morphology in Three Model Thin-Film Systems:  $\text{HfO}_2$ ,  $\text{Y}_2\text{O}_3$ , and  $\text{Ta}_2\text{O}_5$ ," to be published in the Proceedings of the XXVI Annual Symposium on Optical Materials for High Power Lasers, Boulder, CO, October 1994.
- J. Peatross and D. D. Meyerhofer, "Intensity-Dependent Atomic-Phase Effects in High-Order Harmonic Generation," to be published in Physical Review A.
- 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.
- H. Shi and S.-H. Chen, "Dynamic Mechanical Properties of Cyclohexane-Based Glass-Forming Liquid Crystals and a Linear Side-Chain Polymer Analogue," to be published in Liquid Crystals.
- H. Shi and S.-H. Chen, "Effects of Stereochemistry, Mesogenic Core, and Space Length on Crystallization from Nematic and Isotropic Melts of Cyclohexane-Based, Glass-Forming Liquid Crystals," to be published in Liquid Crystals.
- H. Shi and S.-H. Chen, "Novel Glass-Forming Liquid Crystals. III. Helical Sense and Twisting Power in Chiral Nematic Systems," to be published in Liquid Crystals.
- D. Shvarts, U. Alon, D. Ofer, R. L. McCrory, and C. P. Verdon, "Nonlinear Evolution of Multimode Rayleigh-Taylor Instability in Two and Three Dimensions," to be published in Physics of Plasmas.
- A. Simon, "Parametric Excitation of Bernstein Modes in Laser-Produced Plasma," to be published in Physics of Plasmas.
- C. J. Twomey, T. N. Blanton, K. L. Marshall, S. H. Chen, and S. D. Jacobs, "Some Dynamic Features of the Preparation of

Liquid Crystalline Elastomers," to be published in *Liquid Crystals*.

C. P. Verdon and R. L. McCrory, "Direct-Drive Capsule Physics," to be published in the Proceedings of ECLIM '94, Oxford, England, September 1994.

C.-C. Wang, M. Currie, D. Jacobs-Perkins, L. Shi, and T. Y. Hsiang, "Picosecond Cryogenic Nb/Si/Nb Metal-Semiconductor-Metal (MSM) Photodiode on Superconducting Microstrip Transmission Lines," to be published in *IEEE Transactions on Applied Superconductivity*.

C.-C. Wang, M. Currie, D. Jacobs-Perkins, R. Sobolewski, T. Y. Hsiang, and M. J. Feldman, "Electro-Optic Measurements of Single-Flux Quantum Pulses," to be published in the *Institute of Physics Conference Series*.

C.-C. Wang, M. Currie, R. Sobolewski, and T. Y. Hsiang, "Subpicosecond Electrical Pulse Generation by Edge Illumination of Silicon and Indium Phosphide Photoconductive Switches," to be published in *Applied Physics Letters*.

M. D. Wittman, R. Q. Gram, H. Kim, C. K. Immesoete, S. G. Noyes, and S. Scarantino, "Increased Retention Time for Hydrogen and Other Gases by Polymer Shells Using Optically Transparent Aluminum Layers," to be published in the *Journal of Vacuum Science and Technology*.

W. Xiong, Y. Kostoulas, X. Weng, P. M. Fauchet, and R. Sobolewski, "Femtosecond Study of the Electronic Structure in Semiconducting Y-Ba-Cu-O," to be published in *Physical Review B*.

B. Yaakobi, D. Shvarts, R. Epstein, and Q. Qu, "X-Ray Backlighting Imaging of Mixed Imploded Targets," to be published in the *Journal of Applied Physics*.

M. Yu, G. P. Agrawal, and C. J. McKinstrie, "Effects of the Residual Dispersion in the Phase-Conjugation Fiber on Dispersion Compensation in Optical Communication Systems," to be published in *IEEE Photonics Technology Letters*.

M. Yu, C. J. McKinstrie, and G. P. Agrawal, "Modulational Instabilities in Dispersion-Flattened Fibers," to be published in *Physical Review E*.

X. Zhou, S. Alexandrou, and T. Y. Hsiang, "Monte Carlo Investigation of the Mechanism of Subpicosecond Pulse Generation by Nonuniform Gap Illumination," to be published in *Applied Physics Letters*.

J. D. Zuegel and W. Seka, "Direct Measurement of  $^4I_{11/2}$  Terminal-Level Lifetime in Nd:YLF," to be published in the *IEEE Journal of Quantum Electronics*.

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*.

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**Conference Presentations**


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P. M. Fauchet, J. von Behren, K. B. Ucer, and Y. Kostoulas, "Ultrafast Carrier Dynamics in Porous Silicon," QELS '95, Baltimore, MD, 21–26 May 1995.

R. L. McCrory, J. M. Soures, C. P. Verdon, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, H. Kim, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, F. J. Marshall, P. W. McKenty, S. F. B. Morse, A. Okishev, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, M. Tracy, and B. Yaakobi, "Experiments on the OMEGA to Validate High-Gain, Direct-Drive Performance on the National Ignition Facility," 12th International Conference on Laser Interaction and Related Plasma Phenomena, Osaka, Japan, 24–28 April 1995.

The following presentations were made at the 8th International Precision Engineering Seminar, Compiègne, France, 15–19 May 1995:

S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, W. I. Kordonsky, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonsky, "Magnetorheological Finishing: Toward Cylinders, Toroids, and Aspheric Optics."

S. D. Jacobs, "Finish Polishing of Optics with Magnetic Media" (invited).

The following presentations were made at CLEO '95, Baltimore, MD, 21–26 May 1995:

J. J. Armstrong, T. J. Kessler, L. S. Iwan, W. P. Castle, A. W. Schmid, C. Kellogg, J. Barone, and R. Stewart, "Fabrication of Large-Aperture Diffractive and Refractive UV Optical Components Using Continuous-Mask Photolithography and Replication."

T. R. Boehly, R. S. Craxton, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Letzring, S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, M. D. Tracy, and C. P. Verdon, "Initial Performance Results from the Upgraded OMEGA Laser."

R. Boni, R. L. Keck, O. R. Lopez-Raffo, S. A. Letzring, and S. Scarantino, "The Design of an Energy Balance Measurement Diagnostic for the Upgraded OMEGA Laser System."

R. L. Keck, R. E. Bahr, R. Boni, S. A. Letzring, W. Seka, and J. M. Soures, "Initial Energy Measurements of the Upgraded OMEGA Laser."

O. A. Konoplev, Y. Fisher, and D. D. Meyerhofer, "Pedestal Suppression Technique for Chirped Pulse Amplification Laser Using Optical Pulse Cleaning and a Fast Saturable Absorber."

R. L. Kremens, D. L. Brown, J. T. Canosa, S. A. Letzring, M. Litchfield, R. G. Roides, and M. Thomas, "A Precision Electronic Timing System for the OMEGA Upgrade Inertial Fusion Laser System."

Y. Lin, T. J. Kessler, and G. N. Lawrence, "Distributed Phase Plates with Low Scattering Loss for Super-Gaussian Focal Plane Irradiance Profiles."

R. L. McCrory, "Direct and Indirect Laser Fusion" (invited).

A. Okishev, M. D. Skeldon, S. A. Letzring, W. R. Donaldson, K. Green, W. Seka, and L. Fuller, "Complex Multigigahertz Electrical Waveform Generation for Optical Pulse Shaping on the OMEGA Laser."

M. D. Skeldon, A. Okishev, S. A. Letzring, W. R. Donaldson, A. Babushkin, and W. Seka, "Progress on Amplification of Optically Shaped Pulses to the Multijoule Level."

Z. Xu, P. M. Fauchet, C. W. Rella, B. A. Richman, H. A. Schwettman, and G. W. Wicks, "Direct Mid-Infrared Spectroscopic Measurements of Hole Relaxation in InGaAs/AlGaAs Quantum Wells."

M. Yu, G. P. Agrawal, and C. J. McKinstrie, "Effects of Residual Dispersion in the Phase-Conjugation Fiber on Dispersion Compensation in Optical Communication Systems."

L. Zheng, D. D. Meyerhofer, and R. S. Craxton, "Polarization Rotation in Harmonic Generation of Ultra-Intense Laser Pulses."

The following presentations were made at the 25th Annual Anomalous Absorption Conference, Aspen, CO, 27 May–1 June 1995:

R. Betti, V. Goncharov, R. L. McCrory, and C. P. Verdon, “Growth Rate of the Rayleigh-Taylor Instability for Indirect-Drive ICF.”

T. R. Boehly, R. S. Craxton, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, R. L. Kremens, S. A. Letzring, S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, J. M. Soures, M. D. Tracy, and C. P. Verdon, “Initial Performance Results from the Upgraded OMEGA Laser.”

R. S. Craxton, “Prospects for Direct- and Indirect-Drive ICF on the OMEGA Laser” (invited).

S. Cremer, S. Skupsky, C. P. Verdon, and J. A. Delettrez, “The Knock-On’s Diagnostic in Laser ICF Targets Revisited.”

J. Delettrez, D. K. Bradley, C. P. Verdon, and B. Yaakobi, “A Mix Model in *LILAC* for the Linear and Weakly Nonlinear Regime of the Rayleigh-Taylor Instability.”

R. Epstein, J. A. Delettrez, C. P. Verdon, D. Shvarts, and B. Yaakobi, “Simulations of Time-Dependent Spectral Signatures of Fuel-Pusher Mixing in Laser-Driven Implosions.”

V. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, “The Effect of Finite Thermal Conduction on the Ablative Rayleigh-Taylor Instability.”

R. Grobe and R. W. Short, “Diffractive Irradiation Patterns Inside the Plasma Corona.”

T. Kolber, C. J. McKinstrie, S. J. McNaught, and C. I. Moore, “Numerical Simulations of Two-Dimensional Stimulated Raman Scattering in an Inhomogeneous Plasma.”

J. S. Li, C. J. McKinstrie, C. Joshi, and K. Marsh, “Thermal Filamentation of Laser Beams.”

C. J. McKinstrie and J. S. Li, “Effects of the Anti-Stokes Wave on Stimulated Brillouin Scattering.”

D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, “Observation of Relativistic Quiver Effects and Multiphoton Compton Scattering during High-Intensity Laser-Electron Interactions.”

J. D. Schnittman and R. S. Craxton, “Tetrahedral Hohlraums for the OMEGA Upgrade and the National Ignition Facility.”

R. W. Short, “Phase-Conjugated SBS in Laser-Produced Plasmas.”

A. Simon, “Parametric Excitation of Electron Bernstein Waves in Laser-Produced Plasma.”

E. J. Turano, C. J. McKinstrie, and R. E. Giacone, “Two-Dimensional Stimulated Raman Scattering of Short Laser Pulses.”

The following presentations were made at the 1st Annual International Conference on Solid-State Lasers for Application to Inertial Confinement Fusion (ICF), Monterey, CA, 30 May–2 June 1995:

K. Green, W. R. Donaldson, R. Sobolewski, M. D. Skeldon, W. Seka, A. Okishev, and S. A. Letzring, “Transient Microwave Bandwidth Measurements of Illuminated Silicon Switches for Optical Pulse-Shape Control of Laser-Fusion Drivers.”

J. H. Kelly, T. R. Boehly, J. M. Soures, D. L. Brown, R. Boni, R. S. Craxton, R. L. Keck, T. J. Kessler, R. L. Kremens, S. A. Kumpan, S. A. Letzring, S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, and C. P. Verdon, “The Activation of the Upgraded OMEGA Laser at the University of Rochester.”

R. L. McCrory, J. M. Soures, C. P. Verdon, A. Babushkin, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, H. Kim, J. P. Knauer, R. L. Kremens, S. A. Letzring, S. J. Loucks, F. J. Marshall, P. W. McKenty, S. F. B. Morse, A. Okishev, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, and B. Yaakobi, “OMEGA Upgrade Laser System” (invited).

M. D. Skeldon, A. Okishev, A. Babushkin, and W. Seka, “Transient Stimulated Brillouin Scattering Pulse Compression for Photoconductive Switch Activation.”

S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, W. I. Kordonsky, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonsky, “Magnetorheological Finishing: A Deterministic Process for Optics Manufacturing,” SPIE Japan Chapter International Joint Conference on Optical Fabrication

and Testing and Applications of Optical Holography, Tokyo, Japan, 5-7 June 1995 (invited).

The following presentations were made at the Optical Interference Coatings Topical Meeting, Tucson, AZ, 5-9 June 1995:

J. F. Anzellotti, D. J. Smith, and Z. R. Chrzan, "The Improvement of Evaporated Dielectric Polarizer and Beam Splitter Coatings through the Use of Multiple Crystal Monitoring."

A. L. Rigatti, D. J. Smith, L. D. Lund, P. Glenn, and J. Glenn, "Characterization of Surface Particulate on Large Optics for Laser Fusion."

R. J. Sczupak and D. J. Smith, "A Single-Pass Laser Reflectometer: Conceptual Goals and Physical Results."

A. R. Staley and D. J. Smith, "Applications and Processes for High-Damage-Threshold Sol-Gel Coatings."

S. J. VanKerkhove and D. J. Smith, "Induced Stresses to Optical Substrates Due to High-Energy-Laser HR Thin Film Coatings."

S. Papernov, A. W. Schmid, D. J. Smith, A. Anzellotti, J. P. Knauer, P. W. McKenty, and M. D. Wittman, "Atomic Force Microscopy in Support of the Laser-Driven ICF Program," Scanning Microscopy 1995 Meeting, Houston, TX, 6-11 May 1995.

The following presentations were made at The 1995 International Workshop on Superconductivity, Maui, HI, 18-21 June 1995:

R. Adam, W. Kula, R. Sobolewski, J. M. Murduck, and C. Patiette-Hall, "Photo-Induced Changes of the Transport Properties in Y-Ba-Cu-O Step-Edge Josephson Junctions."

W. Kula, R. Adam, and R. Sobolewski, "Y-Ba-Cu-O Thin Films with a Controlled, Oxygen In-Depth Profile for Hybrid Superconducting/Semiconducting Device Applications."

W. Kula, W. Xiong, B. McIntyre, R. Sobolewski, D. B. Dukes, and A. D. Caplin, "Characterization of Y-Ba-Cu-O Thin Films Containing Regions of Different Oxygen Content and Superconducting/Semiconducting Interfaces."

The following presentations were made at the Laser Optics '95 Conference, St. Petersburg, Russia, 27 June-1 July 1995:

J. H. Kelly, T. R. Boehly, J. M. Soures, D. L. Brown, R. Boni, R. S. Craxton, R. L. Keck, T. J. Kessler, R. Kremens, S. A. Kumpan, S. A. Letzring, S. J. Loucks, R. L. McCrory, S. F. B. Morse, W. Seka, S. Skupsky, and C. P. Verdon, "The Activation of the Upgraded OMEGA Laser at the University of Rochester."

A. Okishev, M. D. Skeldon, S. A. Letzring, W. R. Donaldson, A. Babushkin, and W. Seka, "Pulse-Shaping System for 60-Beam, 30-kJ (UV) OMEGA Laser."