
Publications and Conference Presentations

Publications

- A. Babushkin and W. Seka, "Efficient, End-Pumped, 1053-nm Nd:YLF Laser," in *Advanced Solid State Lasers*, edited by W. R. Bosenberg and M. M. Fejer, OSA Trends in Optics and Photonics Series, Vol. 19 (Optical Society of America, Washington, DC, 1998), pp. 111–113.
- A. Babushkin, W. Seka, S. A. Letzring, W. Bittle, M. Labuzeta, M. Miller, and R. Roides, "Multicolor Fiducial Laser for Streak Cameras and Optical Diagnostics for the OMEGA Laser System," in *22nd International Congress on High-Speed Photography and Photonics*, edited by D. L. Paisley and A. M. Frank (SPIE, Bellingham, WA, 1997), Vol. 2869, pp. 540–544.
- R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Growth Rates of the Ablative Rayleigh–Taylor Instability in Inertial Confinement Fusion," *Phys. Plasmas* **5**, 1446 (1998).
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- D. K. Bradley, J. A. Delettrez, R. Epstein, R. P. J. Town, C. P. Verdon, B. Yaakobi, S. Regan, F. J. Marshall, T. R. Boehly, J. P. Knauer, D. D. Meyerhofer, V. A. Smalyuk, W. Seka, D. A. Haynes, Jr., M. Gunderson, G. Junkel, C. F. Hooper, Jr., P. M. Bell, T. J. Ognibene, and R. A. Lerche, "Measurements of Core and Pusher Conditions in Surrogate Capsule Implosions on the OMEGA Laser System," *Phys. Plasmas* **5**, 1870 (1998) (invited).
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- P. M. Fauchet, "Porous Silicon: Photoluminescence and Electroluminescent Devices," in *Light Emission in Silicon*, edited by D. J. Lockwood, Semiconductors and Semimetals Series, Vol. 49 (Academic Press, Orlando, 1996), Chap. 6, pp. 205–252.
- D. Fried, W. Seka, R. E. Glens, and J. D. B. Featherstone, "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 of 1–20 J/cm²," *Lasers Surg. Med.* **20**, 22 (1997).
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- W. Göb, W. Lang, and R. Sobolewski, "Magnetoresistance of a YBa₂Cu₃O₇ Corbino Disk: Probing Geometrical Contributions to the Unconventional Normal-State Magnetoresistance of High-Temperature Superconductors," *Phys. Rev. B: Rapid Commun.* **57**, R8150 (1998).

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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," in *Ultrafast Electronics and Optoelectronics, 1997*, edited by M. Nuss and J. Bowers, OSA Trends in Optics and Photonics Series, Vol. 13 (Optical Society of America, Washington, DC, 1997), pp. 102–105.

S. G. Lukishova, S. V. Belyaev, K. S. Lebedev, E. A. Magulariya, A. W. Schmid, and N. V. Malimonenko, "Behaviour of Nonlinear Liquid-Crystal Mirrors, Made of a Nonabsorbing Cholesteric, in the Cavity of an Nd:YAG Laser Operating in the cw Regime and at a High Pulse Repetition Frequency," *Quantum Electron.* **26**, 796 (1996).

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M. D. Skeldon, A. Babushkin, J. D. Zuegel, R. L. Keck, A. V. Okishev, and W. Seka, “Modeling of an Actively Stabilized Regenerative Amplifier for OMEGA Pulse-Shaping Applications,” in *Second Annual International Conference on Solid State Lasers for Application to Inertial Confinement Fusion*, edited by M. L. André (SPIE, Bellingham, WA, 1997), Vol. 3047, pp. 129–135.

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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 Measurements,” *Phys. Rev. B* **57**, 8702 (1998).

Forthcoming Publications

R. Adam, R. Sobolewski, W. Markowitsch, C. Stockinger, and W. Lang, “Optically Induced Effects in Y-Ba-Cu-O Josephson Junctions,” to be published in *Applied Superconductivity*.

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, R. S. Craxton, S. Oskoui, M. J. Guardalben, R. L. Keck, and W. Seka, “Demonstration of the Dual-Tripler Scheme for Increased-Bandwidth Third-Harmonic Generation,” to be published in *Optics Letters*.

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*.

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. Delettretz, 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, R. S. Craxton, M. J. Guardalben, S. Skupsky, and T. J. Kessler, "The Reduction of Laser Imprinting Using Polarization Smoothing on a Solid-State ICF Laser," to be published in *Physical Review Letters*.

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

T. J. B. Collins, A. Frank, J. E. Bjorkman, and M. Livio, "Supernova 1987A: Rotation and a Binary Companion," to be published in *Astrophysical Journal*.

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*.

T. J. B. Collins, H. L. Helfer, and H. M. VanHorn, "A Model for QPO's in CV's Based on Boundary-Layer Oscillations," to be published in *Astrophysical Journal, Letters*.

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, R. Sobolewski, and T. Y. Hsiang, "Subterahertz Signal Crosstalk in Transmission Line Interconnects," to be published in *Applied Physics Letters*.

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. J. Burns, and C. Pratt, "Nanoindentation Technique for Measuring Residual Stress Field Around a Laser-Induced Crack in Fused Silica," to be published in the *Journal of Materials Science*.

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D. R. Harding, "Using Ion Beam Techniques to Determine the Elemental Composition of ICF Targets," to be published in *Fusion Technology*.

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, Yonezawa, Japan, 22–25 November 1997*.

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D. Katsis, S.-H. Chen, H. Shi, and A. W. Schmid, "Circular Dichroism Induced in Chiral-Nematic Films," to be published in the *MRS Symposium Proceedings, Volume XXX*.

J. P. Knauer, R. Betti, D. K. Bradley, T. R. Boehly, T. J. B. Collins, V. N. Goncharov, P. W. McKenty, D. D. Meyerhofer, V. A. Smalyuk, C. P. Verdon, S. G. Glendinning, D. H. Kalantar, and R. G. Watt, "Single-Mode Rayleigh–Taylor Growth-Rate Measurements with the OMEGA Laser System," to be published in *Physics of Plasmas*.

O. A. Konoplev and D. D. Meyerhofer, "Cancellation of *B*-Integral Accumulation for CPA Lasers," to be published in *Optics Letters*.

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*.

- M. Lindgren, W.-S. Zeng, M. Currie, R. Sobolewski, S. Cherednichenko, B. Voronov, and G. N. Gol'tsman, "Pico-second Response of a Superconducting Hot-Electron NbN Photodetector," to be published in *Applied Superconductivity*.
- F. J. Marshall and G. R. Bennett, "A High-Energy X-Ray Microscope for ICF," to be published in the *Review of Scientific Instruments*.
- 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*.
- R. L. McCrory and J. M. Soures, "Status of Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," to be published in the *Proceedings of the 2nd Symposium on Current Trends in International Fusion Research: Review and Assessment*, Washington, DC, 10–14 March 1997 (invited).
- S. J. McNaught, J. P. Knauer, and D. D. Meyerhofer, "Photoelectron Initial Conditions for Tunneling Ionization in a Linearly Polarized Laser," to be published in *Physical Review A*.
- D. D. Meyerhofer, X. D. Cao, Y. Fisher, O. Konoplev, I. Walmsley, and L. Zheng, "Measurements of Material Properties Using Frequency Domain Interferometry," to be published in the *IEEE Journal of Selected Topics in Quantum Electronics*.
- D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, "Observation of Relativistic Ponderomotive Scattering," to be published in *Physics of Plasmas*.
- B. Nodland and C. J. McKinstrie, "Propagation of a Short Laser Pulse in a Plasma," to be published in *Physical Review E*.
- 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*.
- 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*.
- R. W. Short and A. Simon, "Collisionless Damping of Localized Plasma Waves in Laser-Produced Plasmas and Application to Stimulated Raman Scattering in Filaments," to be published in *Physics of Plasmas*.
- R. W. Short and A. Simon, "Landau Damping and Transit-Time Damping of Localized Plasma Waves in General Geometries," to be published in *Physics of Plasmas*.
- M. D. Skeldon, "A High-Bandwidth Electrical-Waveform Generator Based on Aperture-Coupled Striplines for Optical Pulse-Shaping Applications," to be published in the *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 the *IEEE Journal of Quantum Electronics*.
- V. A. Smalyuk, T. R. Boehly, D. K. Bradley, J. P. Knauer, and D. D. Meyerhofer, "Characterization of an X-Ray Radiographic System Used for Laser-Driven Planar Target Experiments," to be published in the *Review of Scientific Instruments*.
- E. A. Startsev and C. J. McKinstrie, "Relativistic Ponderomotive Dynamics of a Test Particle in a Plasma," to be published in *Physical Review E*.
- 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 the *Journal of Quantitative Spectroscopy and Radiative Transfer*.
- B. Yaakobi, F. J. Marshall, and D. K. Bradley, " $K\alpha$ Cold Target Imaging and Preheat Measurement Using Pinhole-Array X-Ray Spectrometer," to be published in the *Review of Scientific Instruments*.

B. Yaakobi, F. J. Marshall, and D. K. Bradley, "Pinhole-Array X-Ray Spectrometer for Laser-Fusion Experiments," to be published in *Applied Optics*.

L. Zheng and D. D. Meyerhofer, "Self- and Cross-Plate Modulation Coefficients in a KDP Crystal Measured by a Z-Scan Technique," to be published in the *Journal of the Optical Society of America B*.

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

Conference Presentations

A. R. Staley, D. J. Smith, R. C. Eriksson, and R. P. Foley, "Counter-Rotating Planetary Design Increases Production Capacity for Large Rectangular Substrates," 41st Annual Technical Conference of the Society of Vacuum Coaters, Boston, MA, 18–23 April 1998.

The following presentations were made at the Target Fabrication Meeting 1998, Jackson Hole, WY, 19–23 April 1998:

E. L. Alfonso, S.-H. Chen, R. Q. Gram, D. R. Harding, and F. Y. Tsai, "Fabrication of Polyimide Shells by Vapor Phase Deposition for Use as ICF Targets."

D. R. Harding, "Using Ion Beam Techniques to Determine the Elemental Composition of ICF Targets."

P. W. McKenty, "Direct-Drive Capsule Requirements for the National Ignition Facility and OMEGA Laser Systems" (invited).

P. W. McKenty and M. D. Wittman, "Characterization of Thick Cryogenic Layers Using an Interferometric Imaging System."

M. D. Wittman, S. Scarantino, and D. R. Harding, "Controlling the Permeability of Shinethrough Barriers on Inertial Fusion Targets."

The following presentations were made at CLEO/IQEC 1998, San Francisco, CA, 3–8 May 1998:

A. Babushkin, R. S. Craxton, S. Oskoui, M. J. Guardalben, R. L. Keck, and W. Seka, "Demonstration of the Dual-Tripler Scheme for Increased-Bandwidth Frequency Tripling."

A. Babushkin and W. Seka, "Efficient 1053-nm Nd:YLF Laser End Pumped by a 100-W Quasi-cw Diode Array."

A. V. Okishev, M. D. Skeldon and W. Seka, "New Dual-Regime, Diode-Pumped Master Oscillator for the OMEGA Pulse-Shaping System."

M. D. Skeldon, A. Okishev, R. Keck, W. Seka and S. A. Letzring, "A High-Bandwidth Electrical-Waveform Generator Based on Aperture-Coupled Striplines for OMEGA Pulse-Shaping Applications."

The following presentations were made at the 25th European Conference on Laser Interaction with Matter (25th ECLIM), Formia, Italy, 4–8 May 1998:

R. Betti, V. N. Goncharov, and R. L. McCrory, "Hydrodynamic Stability Theory of Unsteady Ablation Fronts."

T. R. Boehly, D. D. Meyerhofer, J. P. Knauer, D. K. Bradley, T. Collins, J. A. Delettrez, V. N. Goncharov, R. L. Keck, S. Regan, V. A. Smalyuk, W. Seka, and R. P. J. Town, "Laser-Uniformity and Hydrodynamic-Stability Experiments at the OMEGA Laser Facility."

D. K. Bradley, J. A. Delettrez, R. Epstein, F. J. Marshall, S. Regan, R. P. J. Town, B. Yaakobi, D. A. Haynes, Jr., C. F. Hooper, Jr., and C. P. Verdon, "Spherical Rayleigh–Taylor Experiments on the 60-Beam OMEGA Laser System."

J. P. Knauer, C. P. Verdon, T. J. B. Collins, V. N. Goncharov, R. Betti, T. R. Boehly, D. D. Meyerhofer, and V. A. Smalyuk, "Interpretation of X-Ray Radiographic Images of Rayleigh–Taylor Unstable Interfaces."

R. L. McCrory, "Strategy for Direct-Drive Ignition on the NIF."

D. D. Meyerhofer, D. K. Bradley, A. V. Chirikikh, R. S. Craxton, S. Regan, W. Seka, R. W. Short, A. Simon, B. Yaakobi, J. Carroll, and R. P. Drake, "Laser-Plasma Interaction Experiments in NIF Direct-Drive-Scale Plasmas."

W. Seka, T. R. Boehly, D. K. Bradley, V. Glebov, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, R. Petrasso, S. Regan, J. M. Soures, B. Yaakobi, J. D. Zuegel, R. Bahukutumbi, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. L. McCrory, P. W. McKenty, R. W. Short, A. Simon, S. Skupsky, and R. P. J. Town, "Experimental Program at LLE in Support of the Direct-Drive Approach to Ignition for the NIF."

S. J. McNaught and D. D. Meyerhofer, "Photoelectron Initial Conditions for Tunneling Ionization in an Elliptically Polarized Laser," 1998 Annual Meeting of the Division of Atomic, Molecular, and Optical Physics (DAMOP), Santa Fe, NM, 27–30 May 1998.

The following presentations were made at the 12th Topical Conference on High-Temperature Plasma Diagnostics, Princeton, NJ, 7–11 June 1998:

F. J. Marshall and G. R. Bennett, "A High-Energy X-Ray Microscope for ICF."

V. A. Smalyuk, T. R. Boehly, D. K. Bradley, J. P. Knauer, and D. D. Meyerhofer, "Characterization of an X-Ray Radiographic System Used for Laser-Driven Planar Target Experiments."

The following presentations were made at Solid State Lasers for Application (SSLA) to Inertial Confinement Fusion, 3rd Annual International Conference, Monterey, CA, 7–12 June 1998:

A. Babushkin, W. Bittle, S. A. Letzring, M. D. Skeldon, and W. Seka, "Regenerative Amplifier for the OMEGA Laser System."

A. Babushkin, R. S. Craxton, S. Oskoui, M. J. Guardalben, R. L. Keck, and W. Seka, "Experimental Verification of the Dual-Tripler Scheme for Efficient Large-Bandwidth Frequency Tripling."

A. Babushkin, J. H. Kelly, C. T. Cotton, M. Labuzeta, M. Miller, T. A. Safford, R. G. Roides, W. Seka, I. Will, M. D. Tracy, and D. L. Brown, "Compact Nd³⁺-Based Laser System with Gain $G_{SS} \leq 10^{13}$ and 20-J Output Energy."

K. Green, W. Seka, M. D. Skeldon, R. L. Keck, A. V. Okishev, and R. Sobolewski, "Improving the Microwave Bandwidth of Photoconductive Switches Used in the OMEGA Pulse-Shaping System."

J. A. Marozas, "The Cross-Phase Modulation Between Two Intense Orthogonally Polarized Laser Beams Co-Propagating Through a Kerr-like Medium."

A. V. Okishev, M. D. Skeldon, and W. Seka, "Multipurpose, Diode-Pumped Nd:YLF Laser for OMEGA Pulse Shaping and Diagnostics Applications."

M. D. Skeldon, A. V. Okishev, R. L. Keck, W. Seka, and S. A. Letzring, "An Optical Pulse-Shaping System Based on Aperture-Coupled Stripline for OMEGA Pulse-Shaping Applications."

J. D. Zuegel, E. Michaels, S. Skupsky, S. Craxton, J. Kelly, and S. Letzring, "Plans to Achieve 1-THz Bandwidth with Two-Dimensional Smoothing by Spectral Dispersion on OMEGA."

The following presentations were made at the Optical Interference Coating Sixth Topical Meeting, Tucson, AZ, 7–12 June 1998:

M. B. Campanelli and D. J. Smith, "A Wideband Optical Monitor for a Planetary Coating System."

K. L. Marshall, A. L. Rigatti, G. L. Mitchell, J. A. Pathak, A. R. Staley, and J. A. Warner, "An Aqueous Sol-Gel Coating for Epoxy Surfaces."

D. J. Smith, J. A. Warner, and N. LeBarron, "Uniformity Model for Energetic Ion Process Using a Kaufman Ion Source."

The following presentations were made at the 28th Annual Anomalous Absorption Conference, Bar Harbor, ME, 14–19 June 1998:

- R. Betti, V. Lobatchev, and R. L. McCrory, "Perturbation Transfer in an Accelerated Shell: Feed-In and Feed-Out."
- R. S. Craxton, D. D. Meyerhofer, and W. Seka, "Interpretation of Long-Scale-Length Plasma Characterization Experiments on OMEGA."
- J. A. Delettrez, D. K. Bradley, S. Regan, T. R. Boehly, J. P. Knauer, and V. A. Smalyuk, "Mix Experiments on the 60-Beam OMEGA Laser System Using Smoothing by Spectral Dispersion (SSD)."
- R. Epstein, J. A. Delettrez, R. P. J. Town, D. K. Bradley, D. Hayes, C. F. Hooper, and C. P. Verdon, "Simulations in One Dimension of the Effects of Fuel–Pusher Mix in Laser-Driven Implosions on Core Temperatures and Densities Determined from Core Emission Spectroscopy."
- Y. Fisher, T. R. Boehly, D. K. Bradley, D. R. Harding, D. D. Meyerhofer, and M. D. Wittman, "Shinethrough of Various Barrier-Layer Materials."
- R. E. Giacone and C. J. McKinstrie, "Angular Dependence of Stimulated Brillouin Scattering."
- V. Lobatchev, R. Betti, and R. L. McCrory, "Theory of the Linear Feed-Out in Planar Geometry."
- C. J. McKinstrie and E. A. Startsev, "Forward and Backward Stimulated Brillouin Scattering of Crossed Laser Beams."
- D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, T. Collins, J. A. Delettrez, V. N. Goncharov, J. P. Knauer, R. P. J. Town, V. A. Smalyuk, D. Oron, Y. Szebro, and D. Shvarts, "Late-Time Evolution of Broad-Bandwidth, Laser-Imposed Non-uniformities in Accelerated Foils."
- S. P. Regan, D. K. Bradley, A. V. Chirikikh, R. S. Craxton, D. D. Meyerhofer, W. Seka, R. P. J. Town, B. Yaakobi, R. P. Drake, and J. J. Carroll III, "Electron Temperature and Density Measurements of Long-Scale-Length, Laser-Produced Plasmas on OMEGA."
- J. D. Schnittman, R. S. Craxton, N. D. Delamater, K. A. Klare, T. J. Murphy, J. M. Wallace, E. I. Lindman, G. R. Magelssen, J. A. Oertel, and S. M. Pollaine, "Radiation Drive Symmetry in OMEGA Tetrahedral Hohlräume."
- W. Seka, D. K. Bradley, A. V. Chirikikh, R. S. Craxton, S. Regan, D. D. Meyerhofer, R. W. Short, A. Simon, B. Yaakobi, J. J. Carroll III, and R. P. Drake, "Stimulated Brillouin Backscattering in NIF Direct-Drive Scale Plasmas."
- R. W. Short, "Simulated Brillouin Scattering in High-Intensity, Self-Focused Filaments: The Effects of Sound Wave Diffraction and Plasma Flow."
- A. Simon, "Return-Current Electrons and Their Generation of Electron Plasma Waves."
- A. Simon, "The 'Return' of the Electron Beam."
- V. A. Smalyuk, T. R. Boehly, D. K. Bradley, J. P. Knauer, D. D. Meyerhofer, D. Oron, Y. Azebro, and D. Shvarts, "Nonlinear Evolution of the 3-D Broad-Bandwidth Spectrum of Imprinting in Planar Targets Accelerated by UV Light."
- E. A. Startsev, C. J. McKinstrie, and R. E. Giacone, "Accurate Formulas for the Landau Damping Rates of Electrostatic Waves."
- R. P. J. Town, R. P. Bahukutumbi, J. A. Delettrez, R. Epstein, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, and S. Skupsky, "Simulations of OMEGA Spherical Implosions."
- E. J. Turano and C. J. McKinstrie, "Oblique Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel."

The following presentations were made at the IXth Conference on Laser Optics (LO '98), St. Petersburg, Russia, 22–26 June 1998:

- J. H. Kelly, S. F. B. Morse, R. Boni, W. R. Donaldson, P. A. Jaanimagi, R. L. Keck, T. J. Kessler, A. V. Okishev, A. Babushkin, A. L. Rigatti, W. Seka, and S. J. Loucks, "Performance of the OMEGA Laser for Direct-Drive ICF."
- A. V. Okishev, M. D. Skeldon, J. H. Kelly, A. Babushkin, J. D. Zuegel, R. G. Roides, and S. F. B. Morse, "Front-End Laser System for the 60-Beam, 30-kJ (UV) OMEGA Laser Facility."