LIST OF PUBLICATIONS
LABORATORY FOR LASER ENERGETICS

2675. R. K. Kirkwood, P. L. Poole, D. H. Kalantar, T. D. Chapman, S. C. Wilks, M. R. Edwards, D. P. Turnbull, P. Michel, L. Divol, N. J. Fisch, P. Norreys, W. Rozmus, J. Bude, B. E. Blue, K. B. Fournier, B. M. Van Wonterghem, and A. MacKinnon, "Production of High Fluence Laser Beams Using Ion Wave Plasma Optics," Appl. Phys. Lett. **120**, 200501 (2022).

2674. N. D. Urban, K. R. P. Kafka, K. L. Marshall, and S. G. Demos, "Laser-Induced Damage Characteristics of Fused Silica Surfaces Polished to Different Depths Using Fluid Jet Polishing," Opt. Eng. **61** (7), 071604 (2022).

2673. L. S. Leal, A. V. Maximov, E. C. Hansen, J. R. Davies, D. H. Barnak, J. L. Peebles, K. M. Woo, P. V. Heuer, A. B. Sefkow, and R. Betti, "The Effect of Laser Preheat in Magnetized Liner Inertial Fusion at OMEGA," Phys. Plasmas **29** (4), 042703 (2022).

2672. O. M. Mannion, A. J. Crilly, C. J. Forrest, B. D. Appelbe, R. Betti, V. Yu. Glebov, V. Gopalaswamy, J. P. Knauer, Z. L. Mohamed, C. Stoeckl, J. P. Chittenden, and S. P. Regan, "Measurements of the Temperature and Velocity of the Dense Fuel Layer in Inertial Confinement Fusion Experiments," Phys. Rev. E **105** (5), 055205 (2022).

2671. D. N. Polsin, A. Lazicki, X. Gong, S. J. Burns, F. Coppari, L. E. Hansen, B. J. Henderson, M. F. Huff, M. I. McMahon, M. Millot, R. Paul, R. F. Smith, J. H. Eggert, G. W. Collins, and J. R. Rygg, "Structural Complexity in Ramp-Compressed Sodium to 480 GPa," Nat. Commun. **13**, 2534 (2022).

2670. K. Weichman, A. P. L. Robinson, M. Murakami, J. J. Santos, S. Fujioka, T. Toncian, J. P. Palastro, and A. V. Arefiev, "Progress in Relativistic Laser–Plasma Interaction with Kilotesla-Level Applied Magnetic Fields," Phys. Plasmas **29** (5), 053104 (2022) (invited).

2669. S.-W. Bahk, I. A. Begishev, R. Roides, C. Mileham, R. Cuffney, C. Feng, B. M. Webb, C. Jeon, M. Spilatro, S. Bucht, C. Dorrer, and J. Bromage, "Effect of Pump Beam Profile and Wavefront on the Amplified Signal Wavefront in Optical Parametric Amplifiers," Opt. Express **30** (8), 12,995–13,008 (2022).

2668. D. A. Chin, J. J. Ruby, P. M. Nilson, D. T. Bishel, F. Coppari, Y. Ping, A. L. Coleman, R. S. Craxton, J. R. Rygg, and G. W. Collins, "Emission Phases of Implosion Sources for X-Ray Absorption Fine Structure Spectroscopy," Phys. Plasmas **29** (5), 052702 (2022).

2667. J. Musgrave and J. Bromage, "Impact of the Optical Parametric Amplification Phase on Laser Pulse Compression," Appl. Opt. **61** (13), 3838–3844 (2022).

2666. T. Z. Kosc, H. Huang, T. J. Kessler, and S. G. Demos, "Angular Dependence of the Transverse Raman Scattering in KDP and DKDP in Geometries Suitable for Beam Polarization Control," Opt. Express **30** (8), 12,918–12,928 (2022).

2665. J. Meinecke, P. Tzeferacos, J. S. Ross, A. F. A. Bott, S. Feister, H.-S. Park, A. R. Bell, R. Blandford, R. L. Berger, R. Bingham, A. Casner, L. E. Chen, J. Foster, D. H. Froula, C. Goyon, D. Kalantar, M. Koenig, B. Lahmann, C.-K. Li, Y. Lu, C. Palmer, R. Petrasso, H. Poole, B. Remington, B. Reville, A. Reyes, A. Rigby, D. Ryu, G. Swadling, A. Zylstra, F. Miniati, S. Sarkar, A. A. Schekochihin, D. Q. Lamb, and G. Gregori, "Strong Suppression of Heat Conduction in a Laboratory Replica of Galaxy-Cluster Turbulent Plasmas," Sci. Adv. **8**, eabj6799 (2022).

2664. C. H. Allen, M. Oliver, L. Divol, O. L. Landen, Y. Ping, M. Schölmerich, R. Wallace, R. Earley, W. Theobald, T. G. White, and T. Döppner, "Toward an Integrated Platform for Characterizing Laser-Driven, Isochorically Heated Plasmas with 1 μm Spatial Resolution," Appl. Opt. **61** (8), 1987–1993 (2022).

2663. R. G. Kraus, R. J. Hemley, S. J. Ali, J. L. Belof, L. X. Benedict, J. Bernier, D. Braun, R. E. Cohen, G. W. Collins, F. Coppari, M. P. Desjarlais, D. Fratanduono, S. Hamel, A. Krygier, A. Lazicki, J. Mcnaney, M. Millot, P. C. Myint, M. G. Newman, J. R. Rygg, D. M. Sterbentz, S. T. Stewart, L. Stixrude, D. C. Swift, C. Wehrenberg, and J. H. Eggert, "Measuring the Melting Curve of Iron at Super-Earth Core Conditions," Science **375** (6577), 202–205 (2022).

2662. C. Dorrer, M. Spilatro, "Spectral and Temporal Shaping of Spectrally Incoherent Pulses in the Infrared and Ultraviolet," Opt. Express **30** (4), 4942–4953 (2022).

2661. G. W. Jenkins, C. Feng, and J. Bromage, "Energy Scaling Beyond the Gas Ionization Threshold with Divided-Pulse Nonlinear Compression," Opt. Lett. **47** (6), 1450–1453 (2022).

2660. T. T. Simpson, D. Ramsey, P. Franke, K. Weichman, M. V. Ambat, D. Turnbull, D. H. Froula, and J. P. Palastro, "Spatiotemporal Control of Laser Intensity Through Cross-Phase Modulation," Opt. Express **30** (6), 9878–9891 (2022).

2659. S. F. Nwabunwanne and W. R. Donaldson, "Interdigitated Electrode Geometry Variation and External Quantum Efficiency of GaN/AlGaN-Based Metal–Semiconductor–Metal UV Photodetectors," Proc. SPIE **12001**, 120010F (2022).

2658. S. Zhang, M. A. Morales, R. Jeanloz, M. Millot, S. X. Hu, and E. Zurek, "Nature of theBonded-to-Atomic Transition in Liquid Silica to TPa Pressures," J. Appl. Phys. **131** (7), 071101 (2022).

2657. M. C. Marshall, M. G. Gorman, D. N. Polsin, J. H. Eggert, M. K. Ginnane, J. R. Rygg, G. W. Collins, and L. D. Leininger, "Diamond Formation in Double-Shocked Epoxy to 150 GPa," J. Appl. Phys. **131** (8), 085904 (2022).

2656. W. Theobald, D. Cao, R. C. Shah, C. A. Thomas, I. V. Igumenshchev, K. A. Bauer, R. Betti, M. J. Bonino, E. M. Campbell, A. R. Christopherson, K. Churnetski, D. H. Edgell, C. J. Forrest, J. A. Frenje, M. Gatu Johnson, V. Yu. Glebov, V. N. Goncharov, V. Gopalswamy, D. R. Harding, S. X. Hu, S. T. Ivancic, D. W. Jacobs-Perkins, R. T. Janezic, T. Joshi, J. P. Knauer, A. Lees, R. W. Luo, O. M. Mannion, F. J. Marshall, Z. L. Mohamed, S. F. B. Morse, D. Patel, J. L. Peebles, R. D. Petrasso, P. B. Radha, H. G. Rinderknecht, M. J. Rosenberg, S. Sampat, T. C. Sangster, W. T. Shmayda, C. M. Shuldberg, A. Shvydky, C. Sorce, C. Stoeckl, M. D. Wittman, and S. P. Regan, "Enhanced Laser-Energy Coupling with Small-Spot Distributed Phase Plates (SG5-650) in OMEGA DT Cryogenic Target Implosions," Phys. Plasmas **29** (1), 012705 (2022).

2655. S. Zhang, D. E. Fratanduono, M. C. Marshall, J. R. Rygg, A. E. Lazicki, A. Shvydky, D. Haberberger, V. N. Goncharov, T. R. Boehly, G. W. Collins, and S. X. Hu, "Species Separation in Polystyrene Shock Release Evidenced by Molecular-Dynamics Simulations and Laser-Drive Experiments," Phys. Rev. Research **4** (1), 013126 (2022).

2654. V. V. Karasiev, D. I. Mihaylov, and S. X. Hu, "Meta-GGA Exchange-Correlation Free Energy Density Functional to Increase the Accuracy of Warm Dense Matter Simulations," Phys. Rev. B **105** (8), L081109 (2022).

2653. C. Stoeckl, M. J. Bonino, C. Mileham, S. P. Regan, W. Theobald, T. Ebert, and S. Sander, "Optimization of a Short-Pulse-Driven Si He$_\alpha$ Soft X-Ray Backlighter," High Energy Density Phys. **41**, 100973 (2021).

2652. A. M. Hansen, K. L. Nguyen, D. Turnbull, B. J. Albright, R. K. Follett, R. Huff, J. Katz, D. Mastrosimone, A. L. Milder, L. Yin, J. P. Palastro, and D. H. Froula, "Cross-Beam Energy Transfer Saturation: Ion Heating and Pump Depletion," Plasma Phys. Control. Fusion **64** (3), 034003 (2022).

2651. T. J. B. Collins, C. Stoeckl, R. Epstein, W. A. Bittle, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, D. W. Jacobs-Perkins, T. Z. Kosc, J. A. Marozas, C. Mileham, F. J. Marshall, S. F. B. Morse, P. B. Radha, S. P. Regan, B. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, and M. D. Wittman, "Causes of Fuel–Ablator Mix Inferred from Modeling of Monochromatic Time-Gated Radiography in OMEGA Cryogenic Implosions," Phys. Plasmas **29** (1), 012702 (2022).

2650. A. F. A. Bott, L. Chen, G. Boutoux, T. Caillaud, A. Duval, M. Koenig, B. Khiar, I. Lantuéjoul, L. Le-Deroff, B. Reville, R. Rosch, D. Ryu, C. Spindloe, B. Vauzour, B. Villette, A. A. Schekochihin, D. Q. Lamb, P. Tzeferacos, G. Gregori, and A. Casner, "Inefficient Magnetic-Field Amplification in Supersonic Laser-Plasma Turbulence," Phys. Rev. Lett. **127** (17), 175002 (2021).

2649. N. R. Shaffer and C. E. Starrett, "Dense Plasma Opacity via the Multiple-Scattering Method," Phys. Rev. E **105** (1), 015203 (2022).

2648. P. T. Campbell, C. A. Walsh, B. K. Russell, J. P. Chittenden, A. Crilly, G. Fiksel, L. Gao, I. V. Igumenshchev, P. M. Nilson, A. G. R. Thomas, K. Krushelnick, and L. Willingale, "Measuring Magnetic Flux Suppression in High-Power Laser-Plasma Interactions," Phys. Plasmas **29** (1), 012701 (2022).

2647. P. T. Campbell, C. A. Walsh, B. K. Russell, J. P. Chittenden, A. Crilly, G. Fiksel, L. Gao, I. V. Igumenshchev, P. M. Nilson, A. G. R. Thomas, K. Krushelnick, and L. Willingale, "Measuring Magnetic Flux Suppression in High-Power Laser-Plasma Interactions," Phys. Plasmas **29** (1), 012701 (2022).

2646. W. Trickey, V. N. Goncharov, I. V. Igumenshchev, A. Shvydky, T. J. B. Collins, and E. M. Campbell, "Central Density and Low-Mode Perturbation Control of Inertial Confinement Fusion Dynamic-Shell Targets," Front. Phys. **9**, 784258 (2021).

2645. D. Zhao, R. Betti, and H. Aluie, "Scale Interactions and Anisotropy in Rayleigh–Taylor Turbulence," J. Fluid Mech. **930**, A29 (2022).

2644. V. V. Karasiev, J. Hinz, S. X. Hu, and S. B. Trickey, "On the Liquid-Liquid Phase Transition of Dense Hydrogen," Nature **600**, E12–E14 (2021).

2643. C. A. Williams, R. Betti, V. Gopalaswamy, and A. Lees, "High Yields in Direct-Drive Inertial Confinement Fusion Using Thin-Ice DT Liner Targets," Phys. Plasmas **28** (12), 122708 (2021).

2642. I. A. Begishev, V. Bagnoud, S.-W. Bahk, W. A. Bittle, G. Brent, R. Cuffney, C. Dorrer, D. H. Froula, D. Haberberger, C. Mileham, P. M. Nilson, A. V. Okishev, J. L. Shaw, M. J. Shoup, C. R. Stillman, C. Stoeckl, D. Turnbull, B. Wager, J. D. Zuegel, and J. Bromage, "Advanced Laser Development and Plasma-Physics Studies on the MultiTerawatt Laser," Appl. Opt. **60** (36), 11,104–11,124 (2021).

2641. V. Gopalaswamy, R. Betti, J. P. Knauer, A. Lees, D. Patel, A. R. Christopherson, I. V. Igumenshchev, D. Cao, K. S. Anderson, A. Shvydky, D. H. Edgell, O. M. Mannion, C. Thomas, W. Theobald, C. Stoeckl, S. P. Regan, V. N. Goncharov, R. C. Shah, and E. M. Campbell, "Using Statistical Modeling to Predict and Understand Fusion Experiments," Phys. Plasmas **28** (12), 122705 (2021).

2640. M. D. Bergkoetter, B. E. Kruschwitz, S.-W. Bahk, and J. R. Fienup, "Measurement of Chromatic Aberrations Using Phase Retrieval," J. Opt. Soc. Am. A 38 (12), 1853–1865 (2021).

2639. J. Bromage, S.-W. Bahk, M. Bedzyk, I. A. Begishev, S. Bucht, C. Dorrer, C. Feng, C. Jeon, C. Mileham, R. G. Roides, K. Shaughnessy, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, "MTW-OPAL: A Technology Development Platform for Ultra-Intense Optical Parametric Chirped-Pulse Amplification Systems," High Power Laser Sci. Eng. **9**, e63 (2021).

2638. C. Feng, C. Dorrer, C. Jeon, R. Roides, B. Webb, and J. Bromage, "Analysis of Pump-to-Signal Noise Transfer in Two-Stage Ultra-Broadband Optical Parametric Chirped-Pulse Amplification," Opt. Express **29** (24), 40,240–40,258 (2021).

2637. S.-W. Bahk, "Analytic Phase Solutions of Three-Wave Interactions," Opt. Lett. **46** (21), 5368-5371 (2021).

2636. S. Nwabunwanne and W. R. Donaldson, "Boosting the External Quantum Efficiency of AlGaN-Based Metal–Semiconductor–Metal Ultraviolet Photodiodes by Electrode Geometry Variation," IEEE J. Quantum Electron. **57** (6), 4000608 (2021).

2635. G. W. Jenkins, C. Feng, and J. Bromage, "Alignment Tolerance Analysis for Divided-Pulse Nonlinear Compression," J. Opt. Soc. Am. B **38** (10), 3199–3205 (2021).

2634. A. Tentori, A. Colaïtis, W. Theobald, A. Casner, D. Raffestin, A. Ruocco, J. Trela, E. Le Bel, K. Anderson, M. Wei, B. Henderson, J. Peebles, R. Scott, S. Baton, S. A. Pikuz, R. Betti, M. Khan, N. Woolsey, and D. Batani, "Experimental Characterization of Hot-Electron Emission and Shock Dynamics in the Context of the Shock-Ignition Approach to Inertial Confinement Fusion," Phys. Plasmas **28** (10), 103302 (2021).

2633. A. Shvydky, A. V. Maximov, V. V. Karasiev, D. Haberberger, S. X. Hu, and V. N. Goncharov, "Ionization State and Dielectric Constant in Cold Rarefied Hydrocarbon Plasmas of Inertial Confinement Fusion," Phys. Rev. E **104** (4), 045207 (2021).

2632. P. Franke, D. Ramsey, T. T. Simpson, D. Turnbull, D. H. Froula, and J. P. Palastro, "Optical Shock-Enhanced Self-Photon Acceleration," Phys. Rev. A **104** (4), 043520 (2021).

2631. A. Colaïtis, I. Igumenshchev, J. Mathiaud, and V. Goncharov, "Inverse Ray Tracing on Icosahedral Tetrahedron Grids for Non-Linear Laser Plasma Interaction Coupled to 3D Radiation Hydrodynamics," J. Comput. Phys. **443**, 110537 (2021).

2630. D. I. Mihaylov, V. V. Karasiev, S. X. Hu, J. R. Rygg, V. N. Goncharov, and G. W. Collins, "Improved First-Principles Equation-of-State Table of Deuterium for High-Energy-Density Applications," Phys. Rev. B **104** (14), 144104 (2021).

2629. A. M. Saunders, C. V. Stan, K. Mackay, B. Morgan, J. A. K. Horwitz, S. J. Ali, H. G. Rinderknecht, T. Haxhimali, Y. Ping, F. Najjar, J. Eggert, and H.-S. Park, "Experimental Observations of Laser-Driven Tin Ejecta Microjet Interactions," Phys. Rev. Lett. **127** (15), 155002 (2021).

2628. M. C. Marshall, M. Millot, D. E. Fratanduono, D. M. Sterbentz, P. C. Myint, J. L. Belof, Y.-J. Kim, F. Coppari, S. J. Ali, J. H. Eggert, R. F. Smith, and J. M. McNaney, "Metastability of Liquid Water Freezing into Ice VII Under Dynamic Compression," Phys. Rev. Lett. **127** (13), 135701 (2021).

2627. H. G. Rinderknecht, T. Wang, A. Laso Garcia, G. Bruhaug, M. S. Wei, H. J. Quevedo, T. Ditmire, J. Williams, A. Haid, D. Doria, K. M. Spohr, T. Toncian, and A. Arefiev, "Relativistically Transparent Magnetic Filaments: Scaling Laws, Initial Results and Prospects for Strong-Field QED Studies," New J. Phys. **23** (9), 095009 (2021).

2626. M. Kaloyan, S. Ghazaryan, C. G. Constantin, R. S. Dorst, P. V. Heuer, J. J. Pilgram, D. B. Schaeffer, and C. Niemann, "Raster Thomson Scattering in Large-Scale Laser Plasmas Produced at High Repetition Rate," Rev. Sci. Instrum. **92** (9), 093102 (2021).

2625. A. Lees, R. Betti, J. P. Knauer, V. Gopalaswamy, D. Patel, K. M. Woo, K. S. Anderson, E. M. Campbell, D. Cao, J. Carroll-Nellenback, R. Epstein, C. Forrest, V. N. Goncharov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, R. T. Janezic, O. M. Mannion, P. B. Radha, S. P. Regan, A. Shvydky, R. C. Shah, W. T. Shmayda, C. Stoeckl, W. Theobald, and C. Thomas, "Experimentally Inferred Fusion Yield Dependencies in OMEGA Inertial Confinement Fusion Implosions," Phys. Rev. Lett. **127** (10), 105001 (2021).

2624. A. Shvydky, D. Haberberger, A. V. Maximov, R. Boni, D. Cao, J. Carroll-Nellenback, D. H. Froula, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, S. T. Ivancic, V. V. Karasiev, J. P. Knauer, P. M. Nilson, P. B. Radha, S. P. Regan, J. R. Rygg, T. C. Sangster, M. D. Rosen, and V. A. Smalyuk, "Density Evolution After Shock Release from Laser-Driven Polystyrene (CH) Targets in Inertial Confinement Fusion," Phys. Plasmas **28** (9), 092703 (2021).

2623. R. H. H. Scott, K. Glize, L. Antonelli, M. Khan, W. Theobald, M. Wei, R. Betti, C. Stoeckl, A. G. Seaton, T. D. Arber, D. Barlow, T. Goffrey, K. Bennett, W. Garbett, S. Atzeni, A. Casner, D. Batani, C. Li, and N. Woolsey, "Shock Ignition Laser-Plasma Interactions in Ignition-Scale Plasmas," Phys. Rev. Lett. **127** (6), 065001 (2021).

2622. S. Rai, M. Hecht, M. Maltrud, and H. Aluie, "Scale of Oceanic Eddy Killing by Wind from Global Satellite Observations," Sci. Adv. **7** (28), eabf4920 (2021).

2621. J. L. Peebles, G. Fiksel, M. R. Edwards, J. von der Linden, L. Willingale, D. Mastrosimone, and H. Chen, "Magnetically Collimated Relativistic Charge-Neutral Electron–Positron Beams from High-Power Lasers," Phys. Plasmas **28** (7), 074501 (2021).

2620. K. L. Nguyen, L. Yin, B. J. Albright, A. M. Hansen, D. H. Froula, D. Turnbull, R. K. Follett, and J. P. Palastro, "Cross-Beam Energy Transfer Saturation by Ion Trapping-Induced Detuning," Phys. Plasmas **28** (8), 082705 (2021).

2619. X. Bian, J. K. Shang, E. G. Blackman, G. W. Collins, and H. Aluie, "Scaling of Turbulent Viscosity and Resistivity: Extracting a Scale-Dependent Turbulent Magnetic Prandtl Number," Astrophys. J. Lett. **917** (1), L3 (2021).

2618. N. V. Kabadi, R. Simpson, P. J. Adrian, A. Bose, J. A. Frenje, M. Gatu Johnson, B. Lahmann, C. K. Li, C. E. Parker, F. H. Séguin, G. D. Sutcliffe, R. D. Petrasso, S. Atzeni, J. Eriksson, C. Forrest, S. Fess, V. Yu. Glebov, R. Janezic, O. M. Mannion, H. G. Rinderknecht, M. J. Rosenberg, C. Stoeckl, G. Kagan, M. Hoppe, R. Luo, M. Schoff, C. Shuldberg, H. W. Sio, J. Sanchez, L. Berzak Hopkins, D. Schlossberg, K. Hahn, and C. Yeamans, "Thermal Decoupling of Deuterium and Tritium During the Inertial Confinement Fusion Shock-Convergence Phase," Phys. Rev. E **104** (1), L013201 (2021).

2617. Y. Zhang, J. R. Davies, P. V. Heuer, and C. Ren, "Kinetic Simulation Study of Magnetized Collisionless Shock Formation on a Terawatt Laser System," Phys. Plasmas **28** (7), 072111 (2021).

2616. J. Zhang, W. R. Donaldson, and G. P. Agrawal, "Time-Domain Fabry–Perot Resonators Formed Inside a Dispersive Medium," J. Opt. Soc. Am. B **38** (8), 2376–2382 (2021).

2615. H. Huang, K. R. P. Kafka, and S. G. Demos, "Electric-Field Enhancement Caused by Subwavelength-Sized Particles Located on the Surface of Multilayer Dielectric Mirrors," Opt. Express **29** (17), 27,031–27,040 (2021).

2614. L. E. Hansen, D. E. Fratanduono, S. Zhang, D. G. Hicks, T. Suer, Z. K. Sprowal, M. F. Huff, X. Gong, B. J. Henderson, D. N. Polsin, M. Zaghoo, S. X. Hu, G. W. Collins, and J. R. Rygg, "Melting of Magnesium Oxide up to Two Terapascals Using Double-Shock Compression," Phys. Rev. B **104** (1), 014106 (2021).

2613. D. H. Edgell, P. B. Radha, J. Katz, A. Shvydky, D. Turnbull, and D. H. Froula, "Nonuniform Absorption and Scattered Light in Direct-Drive Implosions Driven by Polarization Smoothing," Phys. Rev. Lett. **127** (7), 075001 (2021).

2612. J. Zhang, W. R. Donaldson, and G. P. Agrawal, "Impact of the Boundary's Sharpness on Temporal Reflection in Dispersive Media," Opt. Lett. **46** (16), 4053–4056 (2021).

2611. A. L. Milder, J. Katz, R. Boni, J. P. Palastro, M. Sherlock, W. Rozmus, and D. H. Froula, "Statistical Analysis of Non-Maxwellian Electron Distribution Functions Measured with Angularly Resolved Thomson Scattering," Phys. Plasmas **28** (8), 082102 (2021) (invited).

2610. A. R. Christopherson, R. Betti, C. J. Forrest, J. Howard, W. Theobald, J. A. Delettrez, M. J. Rosenberg, A. A. Solodov, C. Stoeckl, D. Patel, V. Gopalaswamy, D. Cao, J. L. Peebles, D. H. Edgell, W. Seka, R. Epstein, M. S. Wei, M. Gatu Johnson, R. Simpson, S. P. Regan, and E. M. Campbell, "Direct Measurements of DT Fuel Preheat from Hot Electrons in Direct-Drive Inertial Confinement Fusion," Phys. Rev. Lett. **127** (5), 055001 (2021).

2609. A. L. Milder, J. Katz, R. Boni, J. P. Palastro, M. Sherlock, W. Rozmus, and D. H. Froula, "Measurements of Non-Maxwellian Electron Distribution Functions and Their Effect on Laser Heating," Phys. Rev. Lett. **127** (1), 015001 (2021).

2608. S. Zhang, J. Li, C. M. Krauland, F. N. Beg, S. Muller, W. Theobald, J. Palastro, T. Filkins, D. Turnbull, D. Haberberger, C. Ren, R. Betti, C. Stoeckl, E. M. Campbell, J. Trela, D. Batani, R. H. H. Scott, and M. S. Wei, "Pump-Depletion Dynamics and Saturation of Stimulated Brillouin Scattering in Shock Ignition Relevant Experiments," Phys. Rev. E **103** (6), 063208 (2021).

2607. G. Pien, B. E. Kruschwitz, S. F. B. Morse, and T. J. Kessler, "Experimental Operations at the Omega Laser Facility amid COVID-19," ICUIL Newsletter **11** (1), 10–12 (2020).

2606. K. M. Woo and R. Betti, "Impact of Areal-Density Asymmetries on the Loss of Confinement and Ignition Threshold in Inertial Confinement Fusion Capsules," Phys. Plasmas **28** (5), 054503 (2021).

2605. D. Haberberger, A. Davies, J. L. Shaw, R. K. Follett, J. P. Palastro, and D. H. Froula, "Hot Raman Amplification," Phys. Plasmas **28** (6), 062311 (2021).

2604. W. Y. Wang and R. S. Craxton, "Pentagonal Prism Spherical Hohlraums for OMEGA," Phys. Plasmas **28** (6), 062703 (2021).

2603. A. Kryjevski, T. Luu, and V. Karasiev, "Electronic Structure of Semiconductor Nanoparticles from Stochastic Evaluation of Imaginary-Time Path Integral," Phys. Rev. Research **3** (2), 023173 (2021).

2602. V. V. Ivanov, A. V. Maximov, R. Betti, L. S. Leal, J. D. Moody, K. J. Swanson, and N. A. Huerta, "Generation of Strong Magnetic Fields for Magnetized Plasma Experiments at the 1-MA Pulsed Power Machine," Matter Radiat. Extremes **6** (4), 046901 (2021).

2601. C. Dorrer, M. Spilatro, S. Herman, T. Borger, and E. M. Hill, "Broadband Sum-Frequency Generation of Spectrally Incoherent Pulses," Opt. Express **29** (11), 16,135–16,152 (2021).

2600. C. D. Arrowsmith, N. Shukla, N. Charitonidis, R. Boni, H. Chen, T. Davenne, A. Dyson, D. H. Froula, J. T. Gudmundsson, B. T. Huffman, Y. Kadi, B. Reville, S. Richardson, S. Sarkar, J. L. Shaw, L. O. Silva, P. Simon, R. M. G. M Trines, R. Bingham, and G. Gregori, "Generating Ultradense Pair Beams Using 400 GeV/*c* Protons," Phys. Rev. Research **3** (2), 023103 (2021).

2599. Z. L. Mohamed, O. M. Mannion, J. P. Knauer, C. J. Forrest, V. Yu. Glebov, C. Stoeckl, and M. H. Romanofsky, "Application of an Energy-Dependent Instrument Response Function to Analysis of nTOF Data from Cryogenic DT Experiments," Rev. Sci. Instrum. **92** (4), 043546 (2021).

2598. P. J. Adrian, J. Frenje, B. Aguirre, B. Bachmann, A. Birkel, M. Gatu Johnson, N. V. Kabadi, B. Lahmann, C. K. Li, O. M. Mannion, W. Martin, Z. L. Mohamed, S. P. Regan, H. G. Rinderknecht, B. Scheiner, M. J. Schmitt, F. H. Séguin, R. C. Shah, H. Sio, C. Sorce, G. D. Sutcliffe, and R. D. Petrasso, "An X-Ray Penumbral Imager for Measurements of Electron–Temperature Profiles in Inertial Confinement Fusion Implosions at OMEGA," Rev. Sci. Instrum. **92** (4), 043548 (2021).

2597. H. Wen, R. K. Follett, A. V. Maximov, D. H. Froula, F. S. Tsung, and J. P. Palastro, "Suppressing the Enhancement of Stimulated Raman Scattering in Inhomogenous Plasmas by Tuning the Modulation Frequency of a Broadband Laser," Phys. Plasmas **28** (4), 042109 (2021).

2596. D. H. Edgell, A. M. Hansen, J. Katz, D. Turnbull, and D. H. Froula, "Unabsorbed Light Beamlets for Diagnosing Coronal Density Profiles and Absorption Nonuniformity in Direct-Drive Implosions on OMEGA," Rev. Sci. Instrum. **92** (4), 043525 (2021).

2595. J. L. Shaw, M. A. Romo-Gonzalez, N. Lemos, P. M. King, G. Bruhaug, K. G. Miller, C. Dorrer, B. Kruschwitz, L. Waxer, G. J. Williams, M. V. Ambat, M. M. McKie, M. D. Sinclair, W. B. Mori, C. Joshi, H. Chen, J. P. Palastro, F. Albert, and D. H. Froula, "Microcoulomb ($0.7 \pm \frac{0.4}{0.2}$ μC) Laser Plasma Accelerator on OMEGA EP," Sci. Rep. **11**, 7498 (2021).

2594. O. M. Mannion, I. V. Igumenshchev, K. S. Anderson, R. Betti, E. M. Campbell, D. Cao, C. J. Forrest, M. Gatu Johnson, V. Yu. Glebov, V. N. Goncharov, V. Gopalaswamy, S. T.

Ivancic, D. W. Jacobs-Perkins, A. Kalb, J. P. Knauer, J. Kwiatkowski, A. Lees, F. J. Marshall, M. Michalko, Z. L. Mohamed, D. Patel, H. G. Rinderknecht, R. C. Shah, C. Stoeckl, W. Theobald, K. M. Woo, and S. P. Regan, "Mitigation of Mode-One Asymmetry in Laser-Direct-Drive Inertial Confinement Fusion Implosions," Phys. Plasmas **28** (4), 042701 (2021) (invited).

2593. W. A. Farmer, M. D. Rosen, G. F. Swadling, C. Bruulsema, C. D. Harris, W. Rozmus, M. B. Schneider, M. W. Sherlock, D. H. Edgell, J. Katz, and J. S. Ross, "Investigation of Heat Transport Using Directly Driven Gold Spheres," Phys. Plasmas **28** (3), 032707 (2021).

2592. B. J. Henderson, M. C. Marshall, T. R. Boehly, R. Paul, C. A. McCoy, S. X. Hu, D. N. Polsin, L. E. Crandall, M. F. Huff, D. A. Chin, J. J. Ruby, X. Gong, D. E. Fratanduono, J. H. Eggert, J. R. Rygg, and G. W. Collins, "Shock-Compressed Silicon: Hugoniot and Sound Speed to 2100 GPa," Phys. Rev. B **103** (9), 094115 (2021).

2591. K. R. P. Kafka, B. N. Hoffman, A. A. Kozlov, and S. G. Demos, "Dynamics of Electronic Excitations Involved in Laser-Induced Damage in HfO_2 and SiO_2 Films," Opt. Lett. **46** (7), 1684–1687 (2021).

2590. C. B. Yeamans, G. E. Kemp, Z. B. Walters, H. D. Whitley, P. W. McKenty, E. M. Garcia, Y. Yang, R. S. Craxton, and B. E. Blue, "High Yield Polar Direct Drive Fusion Neutron Sources at the National Ignition Facility," Nucl. Fusion **61** (4), 046031 (2021).

2589. J. Zhang, W. R. Donaldson, and G. P. Agrawal, "Temporal Reflection and Refraction of Optical Pulses Inside a Dispersive Medium: An Analytic Approach," J. Opt. Soc. Am. B **38** (3), 997–1003 (2021).

2588. R. K. Follett, J. G. Shaw, J. F. Myatt, H. Wen, D. H. Froula, and J. P. Palastro, "Thresholds of Absolute Two-Plasmon-Decay and Stimulated Raman Scattering Instabilities Driven by Multiple Broadband Lasers," Phys. Plasmas **28** (3), 032103 (2021).

2587. V. V. Karasiev and S. X. Hu, "Unraveling the Intrinsic Atomic Physics Behind X-Ray Absorption Line Shifts in Warm Dense Silicon Plasmas," Phys. Rev. E **103** (3), 033202 (2021).

2586. I. A. Begishev, S.-W. Bahk, C. Dorrer, C. Feng, M. J. Guardalben, C. Jeon, R. G. Roides, M. Spilatro, B. Webb, D. Weiner, J. D. Zuegel, and J. Bromage, "A Highly Efficient, 10-J Output Signal Amplifier for Ultra-Intense All-OPCPA Systems," Proc. SPIE **11666**, 1166607 (2021).

2585. H. D. Whitley, G. E. Kemp, C. B. Yeamans, Z. B. Walters, B. E. Blue, W. J. Garbett, M. B. Schneider, R. S. Craxton, E. M. Garcia, P. W. McKenty, M. Gatu-Johnson, K. Caspersen, J. I. Castor, M. Däne, C. L. Ellison, J. A. Gaffney, F. R. Graziani, J. E. Klepeis, N. B. Kostinski, A. L. Kritcher, B. Lahmann, A. E. Lazkicki, H. P. Le, R. A. London, B. Maddox, M. C. Marshall, M. E. Martin, B. Militzer, A. Nikroo, J. Nilsen, T. Ogitsu, J. E. Pask, J. E. Pino, M. S. Rubery, R. Shepherd, P. A. Sterne, D. C. Swift, L. Yang, and S. Zhang, "Comparison of Ablators for the Polar Direct Drive Exploding Pusher Platform," High Energy Density Phys. **38**, 100928 (2021).

2584. O. M. Mannion, K. M. Woo, A. J. Crilly, C. J. Forrest, J. A. Frenje, M. Gatu Johnson, V. Yu. Glebov, J. P. Knauer, Z. L. Mohamed, M. H. Romanofsky, C. Stoeckl, W. Theobald, and S. P. Regan, "Reconstructing 3D Asymmetries in Laser-Direct-Drive Implosions on OMEGA," Rev. Sci. Instrum. **92** (3), 033529 (2021).

2583. S. Jiang, A. Link, D. Canning, J. A. Fooks, P. A. Kempler, S. Kerr, J. Kim, M. Krieger, N. S. Lewis, R. Wallace, G. J. Williams, S. Yalamanchili, and H. Chen, "Enhancing Positron Production Using Front Surface Target Structures," Appl. Phys. Lett. **118** (9), 094101 (2021).

2582. J. Katz, D. Turnbull, B. E. Kruschwitz, A. L. Rigatti, R. Rinefierd, and D. H. Froula, "A Transmitted-Beam Diagnostic for the Wavelength-Tunable UV Drive Beam on OMEGA," Rev. Sci. Instrum. **92** (3), 033526 (2021).

2581. A. F. A. Bott, P. Tzeferacos, L. Chen, C. A. J. Palmer, A. Rigby, A. R. Bell, R. Bingham, A. Birkel, C. Graziani, D. H. Froula, J. Katz, M. Koenig, M. W. Kunz, C. K. Li, J. Meinecke, F. Miniati, R. Petrasso, H.-S. Park, B. A. Remington, B. Reville, J. S. Ross, D. Ryu, D. Ryutov, F. H. Séguin, T. G. White, A. A. Schekochihin, D. Q. Lamb, and G. Gregori, "Time-Resolved Fast Turbulent Dynamo in a Laser Plasma," Proc. Natl. Acad. Sci. **118** (11), e2015729118 (2021).

2580. J. J. Ruby, J. A. Gaffney, J. R. Rygg, Y. Ping, and G. W. Collins, "High-Energy-Density-Physics Measurements in Implosions Using Bayesian Inference," Phys. Plasmas **28** (3), 032703 (2021).

2579. F. J. Marshall, S. T. Ivancic, C. Mileham, P. M. Nilson, J. J. Ruby, C. Stoeckl, B. S. Scheiner, and M. J. Schmitt, "High-Resolution X-Ray Radiography with Fresnel Zone Plates on the University of Rochester's OMEGA Laser Systems," Rev. Sci. Instrum. **92** (3), 033701 (2021).

2578. M. J. Rosenberg, J. E. Hernandez, N. Butler, T. Filkins, R. E. Bahr, R. K. Jungquist, M. Bedzyk, G. Swadling, J. S. Ross, P. Michel, N. Lemos, J. Eichmiller, R. Sommers, P. Nyholm, R. Boni, J. A. Marozas, R. S. Craxton, P. W. McKenty, A. Sharma, P. B. Radha, D. H. Froula, P. Datte, M. Gorman, J. D. Moody, J. M. Heinmiller, J. Fornes, P. Hillyard, and S. P. Regan, "The Scattered Light Time-History Diagnostic Suite at the National Ignition Facility," Rev. Sci. Instrum. **92** (3), 033511 (2021).

2577. L. E. Crandall, J. R. Rygg, D. K. Spaulding, M. F. Huff, M. C. Marshall, D. N. Polsin, R. Jeanloz, T. R. Boehly, M. Zaghoo, B. J. Henderson, S. Brygoo, P. M. Celliers, J. H. Eggert, D. E. Fratanduono, A. Lazicki, M. Millot, and G. W. Collins, "Equation-of-State, Sound Speed, and Reshock of Shock-Compressed Fluid Carbon Dioxide," Phys. Plasmas **28** (2), 022708 (2021) (invited).

2576. A. M. Hansen, K. L. Nguyen, D. Turnbull, B. J. Albright, R. K. Follett, R. Huff, J. Katz, D. Mastrosimone, A. L. Milder, L. Yin, J. P. Palastro, and D. H. Froula, "Cross-Beam Energy Transfer Saturation by Ion Heating," Phys. Rev. Lett. **126** (7), 075002 (2021).

2575. C. Dorrer, I. A. Begishev, S.-W. Bahk, and J. Bromage, "Characterization of Partially Deuterated KDP Crystals Using Two-Wavelength Phase-Matching Angles," Opt. Mater. Express **11** (3), 774–790 (2021).

2574. C. Dorrer, "Optical Parametric Amplification of Spectrally Incoherent Pulses," J. Opt. Soc. Am. B **38** (3), 792–804 (2021).

2573. A. A. Kozlov, S. G. Demos, D. Canning, B. N. Hoffman, B. E. Kruschwitz, A. L. Rigatti, N. Savidis, and L. J. Waxer, "Long-Term Monitoring the Damage Performance of Multilayer Dielectric Grating Samples Residing Inside the Compressor Chamber of the OMEGA EP Laser," Opt. Eng. **60** (3), 031008 (2021).

2572. J. R. Davies, H. Wen, J.-Y. Ji, and E. D. Held, "Transport Coefficients for Magnetic-Field Evolution in Inviscid Magnetohydrodynamics," Phys. Plasmas **28** (1), 012305 (2021).

2571. R. C. Shah, S. X. Hu, I. V. Igumenshchev, J. Baltazar, D. Cao, C. J. Forrest, V. N. Goncharov, V. Gopalaswamy, D. Patel, F. Philippe, W. Theobald, and S. P. Regan, "Observations of Anomalous X-Ray Emission at Early Stages of Hot-Spot Formation in Deuterium-Tritium Cryogenic Implosions," Phys. Rev. E **103** (2), 023201 (2021).

2570. A. Lazicki, D. McGonegle, J. R. Rygg, D. G. Braun, D. C. Swift, M. G. Gorman, R. F. Smith, P. G. Heighway, A. Higginbotham, M. J. Suggit, D. E. Fratanduono, F. Coppari, C. E. Wehrenberg, R. G. Kraus, D. Erskine, J. V. Bernier, J. M. McNaney, R. E. Rudd, G. W. Collins, J. H. Eggert, and J. S. Wark, "Metastability of Diamond Ramp-Compressed to 2 Terapascals," Nature **589** (7843), 532–535 (2021).

2569. V. Yu. Glebov, C. Stoeckl, C. J. Forrest, J. P. Knauer, O. M. Mannion, M. H. Romanofsky, T. C. Sangster, and S. P. Regan, "A Novel Photomultiplier Tube Neutron Time-of-Flight Detector," Rev. Sci. Instrum. **92** (1), 013509 (2021).

2568. I. A. Begishev, G. Brent, S. Carey, R. Chapman, I. A. Kulagin, M. H. Romanofsky, M. J. Shoup III, J. D. Zuegel, and J. Bromage, "High-Efficiency, Fifth-Harmonic Generation of a Joule-Level Neodymium Laser in a Large-Aperture Ammonium Dihydrogen Phosphate Crystal," Opt. Express **29** (2), 1879–1889 (2021).

2567. J. U. Wallace, K. L. Marshall, D. J. Batesky, T. Z. Kosc, B. N. Hoffman, S. Papernov, L. Garrett, J. Shojaie, and S. G. Demos, "Highly Saturated Glassy Liquid Crystal Films Having Nano- and Microscale Thicknesses for High-Power Laser Applications," ACS Appl. Nano Mater. **4** (1), 13–17 (2021).

2566. F. García-Rubio, R. Betti, J. Sanz, and H. Aluie, "Magnetic-Field Generation and Its Effect on Ablative Rayleigh–Taylor Instability in Diffusive Ablation Fronts," Phys. Plasmas **28** (1), 012103 (2021).

2565. J. P. Palastro, B. Malaca, J. Vieira, D. Ramsey, T. T. Simpson, P. Franke, J. L. Shaw, and D. H. Froula, "Laser-Plasma Acceleration Beyond Wave Breaking," Phys. Plasmas **28** (1), 013109 (2021).

2564. K. R. P. Kafka, B. N. Hoffman, H. Huang, and S. G. Demos, "Mechanisms of Picosecond Laser-Induced Damage from Interaction with Model Contamination Particles on a High Reflector," Opt. Eng. **60** (3), 031009 (2021).

2563. F. García-Rubio, R. Betti, J. Sanz, and H. Aluie, "Self-Consistent Theory of the Darrieus–Landau and Rayleigh–Taylor Instabilities with Self-Generated Magnetic Fields," Phys. Plasmas **27** (11), 112715 (2020).

2562. H. Zhang, R. Betti, R. Yan, and H. Aluie, "Nonlinear Bubble Competition of the Multimode Ablative Rayleigh–Taylor Instability and Applications to Inertial Confinement Fusion," Phys. Plasmas **27** (12), 122701 (2020).

2561. R. Epstein, R. C. Mancini, D. T. Cliche, R. C. Shah, T. J. B. Collins, C. Stoeckl, P. W. McKenty, P. B. Radha, S. P. Regan, and V. N. Goncharov, "Self-Radiography of Imploded Shells on OMEGA Based on Additive-Free Multi-Monochromatic Continuum Spectral Analysis," Phys. Plasmas **27** (12), 122709 (2020).

2560. L. Lamaignère, A. Ollé, M. Chorel, N. Roquin, A. A. Kozlov, B. N. Hoffman, J. B. Oliver, S. G. Demos, L. Gallais, R. A. Negres, and A. Melninkaitis, "Round-Robin Measurements of the Laser-Induced Damage Threshold with Sub-Picosecond Pulses on Optical Single Layers," Opt. Eng. **60** (3), 031005 (2021).

2559. Z. L. Mohamed, O. M. Mannion, E. P. Hartouni, J. P. Knauer, and C. J. Forrest, "A Generalized Forward Fit for Neutron Detectors with Energy-Dependent Response Functions," J. Appl. Phys. **128** (21), 214501 (2020).

2558. T. T. Simpson, D. Ramsey, P. Franke, N. Vafaei-Najafabadi, D. Turnbull, D. H. Froula, and J. P. Palastro, "Nonlinear Spatiotemporal Control of Laser Intensity," Opt. Express **28** (26), 38,516–38,526 (2020).

2557. E. M. Campbell, T. C. Sangster, V. N. Goncharov, J. D. Zuegel, S. F. B. Morse, C. Sorce, G. W. Collins, M. S. Wei, R. Betti, S. P. Regan, D. H. Froula, C. Dorrer, D. R. Harding, V. Gopalaswamy, J. P. Knauer, R. Shah, O. M. Mannion, J. A. Marozas, P. B. Radha, M. J. Rosenberg, T. J. B. Collins, A. R. Christopherson, A. A. Solodov, D. Cao, J. P. Palastro, R. K. Follett, and M. Farrell, "Direct-Drive Laser Fusion: Status, Plans and Future," Phil. Trans. R. Soc. A **379**, 20200011 (2020).

2556. S. Zhang, M. C. Marshall, L. H. Yang, P. A. Sterne, B. Militzer, M. Däne, J. A. Gaffney, A. Shamp, T. Ogitsu, K. Caspersen, A. E. Lazicki, D. Erskine, R. A. London, P. M. Celliers, J. Nilsen, and H. D. Whitley, "Benchmarking Boron Carbide Equation of State Using Computation and Experiment," Phys. Rev. E **102** (5), 053203 (2020).

2555. J. J. Ruby, J. R. Rygg, D. A. Chin, J. A. Gaffney, P. J. Adrian, D. Bishel, C. J. Forrest, V. Yu. Glebov, N. V. Kabadi, P. M. Nilson, Y. Ping, C. Stoeckl, and G. W. Collins, "Constraining Physical Models at Gigabar Pressures," Phys. Rev. E **102** (5), 053210 (2020).

2554. J. J. Ruby, J. R. Rygg, D. A. Chin, J. A. Gaffney, P. J. Adrian, C. J. Forrest, V. Yu. Glebov, N. V. Kabadi, P. M. Nilson, Y. Ping, C. Stoeckl, and G. W. Collins, "Energy Flow in Thin Shell Implosions and Explosions," Phys. Rev. Lett. **125** (21), 215001 (2020).

2553. R. B. Spielman and A. B. Sefkow, "Modeling Variable-Impedance, Magnetically Insulated, Transmission Lines," in *2019 IEEE Pulsed Power & Plasma Science (PPPS)* (IEEE, Piscataway, NJ, 2020).

2552. K. S. Anderson, C. J. Forrest, O. M. Mannion, F. J. Marshall, R. C. Shah, D. T. Michel, J. A. Marozas, P. B. Radha, D. Edgell, R. Epstein, V. N. Goncharov, J. P. Knauer, M. Gatu Johnson, and S. Laffite, "Effect of Cross-Beam Energy Transfer on Target-Offset Asymmetry in Direct-Drive Inertial Confinement Fusion Implosions," Phys. Plasmas **27** (11), 112713 (2020).

2551. C. A. McCoy, S. X. Hu, M. C. Marshall, D. N. Polsin, D. E. Fratanduono, Y. H. Ding, P. M. Celliers, T. R. Boehly, and D. D. Meyerhofer, "Measurement of the Sound Velocity and Grüneisen Parameter of Polystyrene at Inertial Confinement Fusion Conditions," Phys. Rev. B **102** (18), 184102 (2020).

2550. D. H. Barnak, M. J. Bonino, P.-Y. Chang, J. R. Davies, E. C. Hansen, D. R. Harding, J. L. Peebles, and R. Betti, "Characterizing Laser Preheat for Laser-Driven Magnetized Liner Inertial Fusion Using Soft X-Ray Emission," Phys. Plasmas **27** (11), 112709 (2020).

2549. C. A. Thomas, E. M. Campbell, K. L. Baker, D. T. Casey, M. Hohenberger, A. L. Kritcher, B. K. Spears, S. F. Khan, R. Nora, D. T. Woods, J. L. Milovich, R. L. Berger, D. Strozzi, D. D. Ho, D. Clark, B. Bachmann, L. R. Benedetti, R. Bionta, P. M. Celliers, D. N. Fittinghoff, G. Grim, R. Hatarik, N. Izumi, G. Kyrala, T. Ma, M. Millot, S. R. Nagel, P. K. Patel, C. Yeamans, A. Nikroo, M. Tabak, M. Gatu Johnson, P. Volegov, and S. M. Finnegan, "Experiments to Explore the Influence of Pulse Shaping at the National Ignition Facility," Phys. Plasmas **27** (11), 112708 (2020).

2548. C. A. Thomas, E. M. Campbell, K. L. Baker, D. T. Casey, M. Hohenberger, A. L. Kritcher, B. K. Spears, S. F. Khan, R. Nora, D. T. Woods, J. L. Milovich, R. L. Berger, D. Strozzi, D. D. Ho, D. Clark, B. Bachmann, L. R. Benedetti, R. Bionta, P. M. Celliers, D. N. Fittinghoff, G. Grim, R. Hatarik, N. Izumi, G. Kyrala, T. Ma, M. Millot, S. R. Nagel, P. K. Patel, C. Yeamans, A. Nikroo, M. Tabak, M. Gatu Johnson, P. L. Volegov, and S. M. Finnegan, "Principal Factors in Performance of Indirect-Drive Laser Fusion Experiments," Phys. Plasmas **27** (11), 112712 (2020).

2547. D. Turnbull, A. V. Maximov, D. Cao, A. R. Christopherson, D. H. Edgell, R. K. Follett, V. Gopalaswamy, J. P. Knauer, J. P. Palastro, A. Shvydky, C. Stoeckl, H. Wen, and D. H. Froula, "Impact of Spatiotemporal Smoothing on the Two-Plasmon–Decay Instability," Phys. Plasmas **27** (10), 102710 (2020).

2546. D. Ramsey, P. Franke, T. T. Simpson, D. H. Froula, and J. P. Palastro, "Vacuum Acceleration of Electrons in a Dynamic Laser Pulse," Phys. Rev. E **102** (4), 043207 (2020).

2545. C. A. Thomas, E. M. Campbell, K. L. Baker, D. T. Casey, M. Hohenberger, A. L. Kritcher, B. K. Spears, S. F. Khan, R. Nora, D. T. Woods, J. L. Milovich, R. L. Berger, D. Strozzi, D. D. Ho, D. Clark, B. Bachmann, L. R. Benedetti, R. Bionta, P. M. Celliers, D. N. Fittinghoff, G. Grim, R. Hatarik, N. Izumi, G. Kyrala, T. Ma, M. Millot, S. R. Nagel, P. K. Patel, C. Yeamans, A. Nikroo, M. Tabak, M. Gatu Johnson, P. L. Volegov,

and S. M. Finnegan, "Deficiencies in Compression and Yield in X-Ray Driven Implosions," Phys. Plasmas **27** (11), 112705 (2020).

2544. D. R. Harding, M. D. Wittman, N. Redden, D. H. Edgell, and J. Ulreich, "Comparison of Shadowgraphy and X-Ray Phase Contrast Methods for Characterizing a DT Ice Layer in an Inertial Confinement Fusion Target," Fusion Sci. Technol. **76** (7), 814–830 (2020).

2543. L. E. Crandall, J. R. Rygg, D. Spaulding, T. R. Boehly, S. Brygoo, P. M. Celliers, J. H. Eggert, D. E. Fratanduono, B. J. Henderson, M. F. Huff, R. Jeanloz, A. Lazicki, M. C. Marshall, D. N. Polsin, M. Zaghoo, M. Millot, and G. W. Collins, "Equation of State of CO_2 Shock Compressed to 1 TPa," Phys. Rev. Lett. **125** (16), 165701 (2020).

2542. T. Z. Kosc, H. Huang, T. J. Kessler, R. A. Negres, and S. G. Demos, "Determination of the Raman Polarizability Tensor in the Optically Anisotropic Crystal Potassium Dihydrogen Phosphate and Its Deuterated Analog," Sci. Rep. **10**, 16283 (2020).

2541. G. W. Jenkins, C. Feng, and J. Bromage, "Overcoming Gas Ionization Limitations with Divided-Pulse Nonlinear Compression," Opt. Express **28** (21), 31,943–31,953 (2020).

2540. J. Hinz, V. V. Karasiev, S. X. Hu, M. Zaghoo, D. Mejía-Rodríguez, S. B. Trickey, and L. Calderín, "Fully Consistent Density Functional Theory Determination of the Insulator-Metal Transition Boundary in Warm Dense Hydrogen," Phys. Rev. Res. **2** (3), 032065(R) (2020).

2539. K. A. Bauer, M. Heimbueger, J. Kwiatkowski, S. Sampat, L. J. Waxer, E. C. Cost, J. H. Kelly, V. Kobilansky, S. F. B. Morse, D. Nelson, D. Weiner, G. Weselak, and J. Zou, "Optical Characterization of the On-Target OMEGA Focal Spot at High Energy Using the Full-Beam In-Tank Diagnostic," Appl. Opt. **59** (26), 7994–8002 (2020).

2538. R. Paul, S. X. Hu, V. V. Karasiev, S. A. Bonev, and D. N. Polsin, "Thermal Effects on the Electronic Properties of Sodium Electride Under High Pressures," Phys. Rev. B **102** (9), 094103 (2020).

2537. S. Zhang and S. X. Hu, "Species Separation and Hydrogen Streaming upon Shock Release from Polystyrene Under Inertial Confinement Fusion Conditions," Phys. Rev. Lett. **125** (10), 105001 (2020).

2536. S. Zhang, H. D. Whitley, and T. Ogitsu, "Phase Transformation in Boron Under Shock Compression," Solid State Sci. **108**, 106376 (2020).

2535. A. V. Maximov, J. G. Shaw, and J. P. Palastro, "Nonlinear Transmission of Laser Light Through Coronal Plasma Due to Self-Induced Incoherence," Phys. Rev. E **102** (2), 023205 (2020).

2534. B. N. Hoffman, A. A. Kozlov, N. Liu, H. Huang, J. B. Oliver, A. L. Rigatti, T. J. Kessler, A. A. Shestopalov, and S. G. Demos, "Mechanisms of Picosecond Laser-Induced Damage in Common Multilayer Dielectric Gratings," Opt. Express **28** (17), 24,928–24,936 (2020).

2533. V. N. Goncharov, I. V. Igumenshchev, D. R. Harding, S. F. B. Morse, S. X. Hu, P. B. Radha, D. H. Froula, S. P. Regan, T. C. Sangster, and E. M. Campbell, "Novel Hot-Spot Ignition Designs for Inertial Confinement Fusion with Liquid-Deuterium-Tritium Spheres," Phys. Rev. Lett. **125** (6), 065001 (2020).

2532. D. H. Barnak, J. R. Davies, J. P. Knauer, and P. M. Kozlowski, "Soft X-Ray Spectrum Unfold of K-Edge Filtered X-Ray Diode Arrays Using Cubic Splines," Rev. Sci. Instrum. **91** (7), 073102 (2020).

2531. M. Sharpe, W. T. Shmayda, and K. Glance, "Measurement of Palladium Hydride and Palladium Deuteride Isotherms between 130 K and 393 K," published online in Fusion Science and Technology, check back for volume and page numbers.

2530. J. L. Peebles, J. R. Davies, D. H. Barnak, T. Cracium, M. J. Bonino, and R. Betti, "Axial Proton Probing of Magnetic and Electric Fields Inside Laser-Driven Coils," Phys. Plasmas **27** (6), 063109 (2020).

2529. L. Ceurvorst, R. Betti, A. Casner, V. Gopalaswamy, A. Bose, S. X. Hu, E. M. Campbell, S. P. Regan, C. A. McCoy, M. Karasik, J. Peebles, M. Tabak, and W. Theobald, "Hybrid Target Design for Imprint Mitigation in Direct-Drive Inertial Confinement Fusion," Phys. Rev. E **101** (6), 063207 (2020).

2528. S. H. Cao, R. Yan, H. Wen, J. Li, and C. Ren, "Cogeneration of Hot Electrons from Multiple Laser-Plasma Instabilities," Phys. Rev. E **101** (5), 053205 (2020).

2527. D. I. Mihaylov, V. V. Karasiev, and S. X. Hu, "Thermal Hybrid Exchange-Correlation Density Functional for Improving the Description of Warm Dense Matter," Phys. Rev. B **101** (24), 245141 (2020).

2526. A. Kar, S. X. Hu, G. Duchateau, J. Carroll-Nellenback, and P. B. Radha, "Implementing a Microphysics Model in Hydrodynamic Simulations to Study the Initial Plasma Formation in Dielectric Ablator Materials for Direct-Drive Implosions," Phys. Rev. E **101** (6), 063202 (2020).

2525. C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, "A Thin Alumina Film as a Tritium Adsorption Inhibitor for Stainless Steel 316," Fusion Sci. Technol. **76** (4), 424–429 (2020).

2524. K. M. Woo, R. Betti, O. M. Mannion, C. J. Forrest, J. P. Knauer, V. N. Goncharov, P. B. Radha, D. Patel, V. Gopalaswamy, and V. Yu. Glebov, "Inferring Thermal Ion Temperature and Residual Kinetic Energy from Nuclear Measurements in Inertial Confinement Fusion Implosions," Phys. Plasmas **27** (6), 062702 (2020) (invited).

2523. E. C. Hansen, J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, V. Yu. Glebov, J. P. Knauer, L. S. Leal, J. L. Peebles, A. B. Sefkow, and K. M. Woo, "Neutron Yield Enhancement and Suppression by Magnetization in Laser-Driven Cylindrical Implosions," Phys. Plasmas **27** (6), 062703 (2020) (invited).

2522. A. R. Christopherson, R. Betti, S. Miller, V. Gopalaswamy, O. M. Mannion, and D. Cao, "Theory of Ignition and Burn Propagation in Inertial Fusion Implosions," Phys. Plasmas **27** (5), 052708 (2020).

2521. D. Turnbull, A. V. Maximov, D. H. Edgell, W. Seka, R. K. Follett, J. P. Palastro, D. Cao, V. N. Goncharov, C. Stoeckl, and D. H. Froula, "Anomalous Absorption by the Two-Plasmon Decay Instability," Phys. Rev. Lett. **124** (18), 185001 (2020).

2520. J. R. Rygg, R. F. Smith, A. E. Lazicki, D. G. Braun, D. E. Fratanduono, R. G. Kraus, J. M. McNaney, D. C. Swift, C. E. Wehrenberg, F. Coppari, M. F. Ahmed, M. A. Barrios, K. J. M. Blobaum, G. W. Collins, A. L. Cook, P. Di Nicola, E. G. Dzenitis, S. Gonzales, B. F. Heidl, M. Hohenberger, A. House, N. Izumi, D. H. Kalantar, S. F. Khan, T. R. Kohut, C. Kumar, N. D. Masters, D. N. Polsin, S. P. Regan, C. A. Smith, R. M. Vignes, M. A. Wall, J. Ward, J. S. Wark, T. L. Zobrist, A. Arsenlis, and J. H. Eggert, "X-Ray Diffraction at the National Ignition Facility," Rev. Sci. Instrum. **91**, 043902 (2020).

2519. J. P. Palastro, J. L. Shaw, P Franke, D. Ramsey, T. T. Simpson, and D. H. Froula, "Dephasingless Laser Wakefield Acceleration," Phys. Rev. Lett. **124** (13), 134802 (2020).

2518. R. K. Follett, J. G. Shaw, J. F. Myatt, D. H. Froula, and J. P. Palastro, "Multibeam Absolute Stimulated Raman Scattering and Two-Plasmon Decay," Phys. Rev. E **101** (4), 043214 (2020).

2517. S. X. Hu, V. V. Karasiev, V. Recoules, P. M. Nilson, N. Brouwer, and M. Torrent, "Interspecies Radiative Transition in Warm and Superdense Plasma Mixtures," Nat. Commun. **11**, 1989 (2020).

2516. A. A. Solodov, M. J. Rosenberg, W. Seka, J. F. Myatt, M. Hohenberger, R. Epstein, C. Stoeckl, R. W. Short, S. P. Regan, P. Michel, T. Chapman, R. K. Follett, J. P. Palastro, D. H. Froula, P. B. Radha, J. D. Moody, and V. N. Goncharov, "Hot-Electron Generation at Direct-Drive Ignition-Relevant Plasma Conditions at the National Ignition Facility," Phys. Plasmas **27** (5), 052706 (2020).

2515. Y. Zhao and W. R. Donaldson, "Ultrafast UV AlGaN Metal–Semiconductor–Metal Photodetector With a Response Time Below 25 ps," IEEE J. Quantum Electron. **56** (3), 4000607 (2020).

2514. H. G. Rinderknecht, D. T. Casey, R. Hatarik, R. M. Bionta, B. J. MacGowan, P. Patel, O. L. Landen, E. P. Hartouni, and O. A. Hurricane, "Azimuthal Drive Asymmetry in Inertial Confinement Fusion Implosions on the National Ignition Facility," Phys. Rev. Lett. **124** (14), 145002 (2020).

2513. M. J. Rosenberg, A. A. Solodov, W. Seka, R. K. Follett, J. F. Myatt, A. V. Maximov, C. Ren, S. Cao, P. Michel, M. Hohenberger, J. P. Palastro, C. Goyon, T. Chapman, J. E. Ralph, J. D. Moody, R. H. H. Scott, K. Glize, and S. P. Regan, "Stimulated Raman Scattering Mechanisms and Scaling Behavior in Planar Direct-Drive Experiments at the National Ignition Facility," Phys. Plasmas **27** (4), 042705 (2020).

2512. O. M. Mannion, J. P. Knauer, V. Yu. Glebov, C. J. Forrest, A. Liu, Z. L. Mohamed, M. H. Romanofsky, T. C. Sangster, C. Stoeckl, and S. P. Regan, "A Suite of Neutron Time-of-Flight Detectors to Measure Hot-Spot Motion in Direct-Drive Inertial Confinement Fusion Experiments on OMEGA," Nucl. Instrum. Methods Phys. Res. A **964**, 163774 (2020).

2511. R. W. Short, "Absolute Stimulated Raman Side Scatter in Direct-Drive Laser-Produced Plasmas," Phys. Plasmas **27** (4), 042703 (2020).

2510. S. MacNally, C. Smith, J. Spaulding, J. Foster, and J. B. Oliver, "Glancing-Angle-Deposited Silica Films for Ultraviolet Wave Plates," Appl. Opt. **59** (5), A155–A161 (2020).

2509. M. J. Guardalben, M. Barczys, B. E. Kruschwitz, M. Spilatro, L. J. Waxer, and E. M. Hill, "Laser-System Model for Enhanced Operational Performance and Flexibility on OMEGA EP," High Power Laser Sci. Eng. **8**, e8 (2020).

2508. X. Bian, H. Aluie, D. Zhao, H. Zhang, and D. Livescu, "Revisiting the Late-Time Growth of Single-Mode Rayleigh–Taylor Instability and the Role of Vorticity," Physica D **403**, 132250 (2020).

2507. L. S. Leal, A. V. Maximov, R. Betti, A. B. Sefkow, and V. V. Ivanov, "Modeling Magnetic Confinement of Laser-Generated Plasma in Cylindrical Geometry Leading to Disk-Shaped Structures," Phys. Plasmas **27** (2), 022116 (2020).

2506. K. Luo, V. V. Karasiev, and S. B. Trickey, "Towards Accurate Orbital-Free Simulations: A Generalized Gradient Approximation for the Noninteracting Free Energy Density Functional," Phys. Rev. B **101** (7), 075116 (2020).

2505. W. Theobald, C. Sorce, W. R. Donaldson, R. Epstein, R. L. Keck, C. Kellogg, T. J. Kessler, J. Kwiatkowski, F. J. Marshall, S. Sampat, W. Seka, R. C. Shah, A. Shvydky, C. Stoeckl, L. J. Waxer, and S. P. Regan, "Inferred UV Fluence Focal-Spot Profiles from Soft X-Ray Pinhole-Camera Measurements on OMEGA," Rev. Sci. Instrum. **91** (2), 023505 (2020).

2504. E. M. Schiesser, A. Bauer, and J. P. Rolland "Estimating Field-Dependent Nodal Aberration Theory Coefficients from Zernike Full-Field Displays by Utilizing Eighth-Order Astigmatism," J. Opt. Soc. Am. A **36** (12), 2115–2128 (2019).

2503. E. M. Schiesser, A. Bauer, and J. P. Rolland "Effect of Freeform Surfaces on the Volume and Performance of Unobscured Three Mirror Imagers in Comparison with Off-Axis Rotationally Symmetric Polynomials," Opt. Express **27** (15), 21,750–21,765 (2019).

2502. A. L. Milder, H. P. Le, M. Sherlock, P. Franke, J. Katz, S. T. Ivancic, J. L. Shaw, J. P. Palastro, A. M. Hansen, I. A. Begishev, W. Rozmus, and D. H. Froula, "Evolution of the Electron Distribution Function in the Presence of Inverse Bremsstrahlung Heating and Collisional Ionization," Phys. Rev. Lett. **124** (2), 025001 (2020).

2501. E. M. Schiesser, S.-W. Bahk, J. Bromage, and J. P. Rolland, "Design and Alignment of an All-Spherical Unobscured Four-Mirror Image Relay for an Ultra-Broadband Sub-Petawatt Laser," Appl. Optics **58** (35), 9514–9523 (2019).

2500. C. Smith, S. MacNally, and J. B. Oliver, "Ellipsometric Modeling of Serially Bi-Deposited Glancing-Angle-Deposition Coatings," Appl. Opt. **59** (5), A26–A30 (2020).

2499. J. J. Ruby, J. R. Rygg, J. A. Gaffney, B. Bachmann, and G. W. Collins, "A Boundary Condition for Guderley's Converging Shock Problem," Phys. Fluids **31** (12), 126104 (2019).

2498. J. B. Oliver, A. L. Rigatti, T. Noll, J. Spaulding, J. Hettrick, V. Gruschow, G. Mitchell, D. Sadowski, C. Smith, and B. Charles, "Large-Aperture Coatings for Fusion-Class Laser Systems," Appl. Opt. **59** (5), A7–A15 (2020).

2497. J. B. Oliver, J. Spaulding, and B. Charles, "Stress Compensation by Deposition of a Nonuniform Corrective Coating," App. Opt. **59** (5), A54–A57 (2020).

2496. T. Z. Kosc, H. Huang, T. J. Kessler, A. Maltsev, and S. G. Demos, "Measurement of the Angular Dependence of the Spontaneous Raman Scattering in Anistropic Crystalline Materials Using Spherical Samples: Potassium Dihydrogen Phosphate as a Case Sample," Rev. Sci. Instrum. **91** (1), 015101 (2020).

2495. C. Dorrer, E. M. Hill, and J. D. Zuegel, "High-Energy Parametric Amplification of Spectrally Incoherent Broadband Pulses," Opt. Express **28** (1), 451–471 (2020).

2494. S. X. Hu, R. Epstein, W. Theobald, H. Xu, H. Huang, V. N. Goncharov, S. P. Regan, P. W. McKenty, R. Betti, E. M. Campbell, and D. S. Montgomery, "Direct-Drive Double-Shell Implosion: A Platform for Burning-Plasma Physics Studies," Phys. Rev. E **100** (6), 063204 (2019).

2493. D. Haberberger, A. Shvydky, V. N. Goncharov, D. Cao, J. Carroll-Nellenback, S. X. Hu, S. T. Ivancic, V. V. Karasiev, J. P. Knauer, A. V. Maximov, and D. H. Froula, "Plasma Density Measurements of the Inner Shell Release," Phys. Rev. Lett. **123** (23), 235001 (2019).

2492. D. Turnbull, A. Colaïtis, A. M. Hansen, A. L. Milder, J. P. Palastro, J. Katz, C. Dorrer, B. E. Kruschwitz, D. J. Strozzi, and D. H. Froula, "Impact of the Langdon Effect on Crossed-Beam Energy Transfer," Nat. Phys. **16** (2), 181–185 (2020).

2491. W. T. Shmayda, C. R. Shmayda, and G. Torres, "Tritium Extraction from Water," Fusion Sci. Technol. **75** (8), 1030–1036 (2019).

2490. M. Sharpe, C. Fagan, and W. T. Shmayda, "Distribution of Tritium in the Near Surface of Type 316 Stainless Steel," Fusion Sci. Technol. **75** (8), 1053–1057 (2019).

2489. T. Z. Kosc, A. A. Kozlov, S. Papernov, K. R. P. Kafka, K. L. Marshall, and S. G. Demos, "Investigation of Parameters Governing Damage Resistance of Nematic Liquid Crystals for High-Power or Peak-Intensity Laser Applications," Sci. Rep. **9**, 16435 (2019).

2488. C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, "Tritium Retention in Hexavalent Chromate-Conversion–Coated Aluminum Alloy," Fusion Sci. Technol. **75** (8), 1058–1063 (2019).

2487. P. Franke, D. Turnbull, J. Katz, J. P. Palastro, I. A. Begishev, J. Bromage, J. L. Shaw, R. Boni, and D. H. Froula, "Measurement and Control of Large Diameter Ionization Waves of Arbitrary Velocity," Opt. Express **27** (22), 31978 (2019).

2486. A. S. Davies, D. Haberberger, J. Katz, S. Bucht, J. P. Palastro, R. K. Follett, and D. H. Froula, "Investigation of Picosecond Thermodynamics in a Laser-Produced Plasma Using Thomson Scattering," Plasma Phys. Control. Fusion **62** (1), 014012 (2020).

2485. A. M. Hansen, D. Turnbull, J. Katz, and D. H. Froula, "Mitigation of Self-Focusing in Thomson Scattering Experiments," Phys. Plasmas **26** (8), 103110 (2019).

2484. R. Paul, S. X. Hu, and V. V. Karasiev, "Crystalline Phase Transitions and Vibrational Spectra of Silicon up to Multiterapascal Pressures," Phys. Rev. B **100** (14), 144101 (2019).

2483. H. Wen, A. V. Maximov, R. Yan, J. Li, C. Ren, and F. S. Tsung, "Three-Dimensional Particle-in-Cell Modeling of Parametric Instabilities Near the Quarter-Critical Density in Plasmas," Phys. Rev. E **100** (4), 041201(R) (2019).

2482. J. F. Myatt, J. G. Shaw, R. K. Follett, D. H. Edgell, D. H. Froula, J. P. Palastro, and V. N. Goncharov, "*LPSE*: A 3-D Based Model of Cross-Beam Energy Transfer in Laser-Irradiated Plasmas," J. Comp. Phys. **399**, 108916 (2019).

2481. T. Filkins and J. Katz, "Design of a Free-Space Image-Relay Optical Time Domain Reflectometer to Measure Fiber-Optic Time Delays at Inertial Confinement Fusion-Relevant Wavelengths," Proc. SPIE **11114**, 1111417 (2019).

2480. C. J. Forrest, A. Deltuva, W. U. Schröder, A. V. Voinov, J. P. Knauer, E. M. Campbell, G. W. Collins, V. Yu. Glebov, O. M. Mannion, Z. L. Mohamed, P. B. Radha, S. P. Regan, T. C. Sangster, and C. Stoeckl, "Deuteron Breakup Induced by 14-MeV Neutrons from Inertial Confinement Fusion," Phys. Rev. C **100** (3), 034001 (2019).

2479. S. C. Miller, J. P. Knauer, C. J. Forrest, V. Yu. Glebov, P. B. Radha, and V. N. Goncharov, "Fuel-Shell Interface Instability Growth Effects on the Performance of Room Temperature Direct-Drive Implosions," Phys. Plasmas **26** (8), 082701 (2019).

2478. B. S. Rice, J. Ulreich, and M. J. Shoup III, "Prediction of Deuterium–Tritium Ice-Layer Uniformity in Direct-Drive Confinement Fusion Target Capsules," in *Proceedings of NAFEMS World Congress 2019* (NAFEMS, Glasgow, Scotland, 2019).

2477. A. J. Howard, D. Turnbull, A. S. Davies, P. Franke, D. H. Froula, and J. P. Palastro, "Photon Acceleration in a Flying Focus," Phys. Rev. Lett. **123** (12), 124801 (2019).

2476. L. Guazzotto and R. Betti, "Two-Fluid Burning-Plasma Analysis for Magnetic Confinement Fusion Devices," Plasma Phys. Control Fusion **61** (8), 085028 (2019).

2475. D. Cao, R. C. Shah, S. P. Regan, R. Epstein, I. V. Igumenshchev, V. Gopalaswamy, A. R. Christopherson, W. Theobald, P. B. Radha, and V. N. Goncharov, "Interpreting the Electron Temperature Inferred from X-Ray Continuum Emission for Direct-Drive Inertial Confinement Fusion Implosions on OMEGA," Phys. Plasmas **26** (8), 082709 (2019).

2474. B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "A Time-to-Frequency Converter for Measuring the Shape of Short Optical Pulses," Rev. Sci. Instrum. **90** (8), 083106 (2019).

2473. S. G. Demos, J. C. Lambropoulos, R. A. Negres, M. J. Matthews, and S. R. Qiu, "Dynamics of Secondary Contamination from the Interaction of High-Power Laser Pulses with Metal Particles Attached on the Input Surface of Optical Components," Opt. Express **27** (16), 23,515–23,528 (2019).

2472. J. DeGroote Nelson, T. Z. Kosc, and P. C. Nelson, "The Optics Suitcase: Educational Outreach Tool for Inspiring Careers in Light," Proc. SPIE **11143**, 111432N (2019).

2471. R. V. Shapovalov, G. Brent, R. Moshier, M. Shoup, R. B. Spielman, and P.-A. Gourdain, "Design of 30-T Pulsed Magnetic Field Generator for Magnetized High-Energy-Density Plasma Experiments," Phys. Rev. Accel. Beams **22**, 080401 (2019).

2470. I. V. Igumenshchev, A. L. Velikovich, V. N. Goncharov, R. Betti, E. M. Campbell, J. P. Knauer, S. P. Regan, A. J. Schmitt, R. C. Shah, and A. Shvydky, "Rarefaction Flows and Mitigation of Imprint in Direct-Drive Implosions," Phys. Rev. Lett. **123** (6), 065001 (2019).

2469. S. Bucht, D. Haberberger, J. Bromage, and D. H. Froula, "Methodology for Designing Grism Stretchers for Idler-Based Optical Parametric Chirped-Pulse-Amplification Systems," J. Opt. Soc. Am. B **36** (8), 2325–2337 (2019).

2468. H. Habara, T. Iwawaki, T. Gong, M. S. Wei, S. T. Ivancic, W. Theobald, C. M. Krauland, S. Zhang, G. Fiksel, and K. A. Tanaka, "A Ten-Inch Manipulator (TIM) Based Fast-Electron Spectrometer with Multiple Viewing Angles (OU-ESM)," Rev. Sci. Instrum. **90** (6), 063501 (2019).

2467. J. L. Peebles, S. X. Hu, W. Theobald, V. N. Goncharov, N. Whiting, P. M. Celliers, S. J. Ali, G. Duchateau, E. M. Campbell, T. R. Boehly, and S. P. Regan, "Direct-Drive Measurements of Laser-Imprint-Induced Shock Velocity Nonuniformities," Phys. Rev. E **99** (6), 063208 (2019).

2466. A. Lees and H. Aluie, "Baropycnal Work: A Mechanism for Energy Transfer Across Scales," Fluids **4** (2), 92 (2019).

2465. R. K. Follett, J. G. Shaw, J. F. Myatt, C. Dorrer, D. H. Froula, and J. P. Palastro, "Thresholds of Absolute Instabilities Driven by a Broadband Laser," Phys. Plasmas **26** (6), 062111 (2019).

2464. R. Adam, G. Chen, D. E. Bürgler, T. Shou, I. Kommisarov, S. Heidtfeld, H. Hardtdegen, M. Mikulics, C. M. Schneider, and R. Sobolewski, "Magnetically and Optically Tunable

Terahertz Radiation from Ta/NiFe/Pt Spintronic Nanolayers Generated by Femtosecond Laser Pulses," Appl. Phys. Lett. **114** (21), 212405 (2019).

2463. C. Stoeckl, C. J. Forrest, V. Yu. Glebov, S. P. Regan, T. C. Sangster, W. U. Schröder, A. Schwemmlein, and W. Theobald, "A Platform for Nuclear Physics Experiments with Laser-Accelerated Light Ions," Nucl. Instrum. Methods Phys. Res. B **453**, 41–49 (2019).

2462. V. V. Karasiev, S. X. Hu, M. Zaghoo, and T. R. Boehly, "Exchange-Correlation Thermal Effects in Shocked Deuterium: Softening the Principal Hugoniot and Thermophysical Properties," Phys. Rev. B **99** (21), 214110 (2019).

2461. V. V. Karasiev, S. B. Trickey, and J. W. Dufty, "Status of Free-Energy Representations for the Homogeneous Electron Gas," Phys. Rev. B **99** (19), 195134 (2019).

2460. J. A. Delettrez, T. J. B. Collins, and C. Ye, "Determining Acceptable Limits of Fast-Electron Preheat in Direct-Drive-Ignition-Scale Target Designs," Phys. Plasmas **26** (6), 062705 (2019).

2459. M. Chorel, S. Papernov, A. A. Kozlov, B. N. Hoffman, J. B. Oliver, S. G. Demos, T. Lanternier, É. Lavastre, L. Lamaignère, N. Roquin, B. Bousquet, N. Bonod, and J. Néauport, "Influence of Absorption-Edge Properties on Subpicosecond Intrinsic Laser-Damage Threshold at 1053 nm in Hafnia and Silica Monolayers," Opt. Express **27** (12), 16,922–16,934 (2019).

2458. S. Papernov, "Spectroscopic Setup for Submicrometer-Resolution Mapping of Low-Signal Absorption and Luminescence Using Photothermal Heterodyne Imaging and Photon-Counting Techniques," Appl. Opt. **58** (14), 3908–3912 (2019).

2457. S. Sampat, T. Z. Kosc, K. A. Bauer, R. D. Dean, W. R. Donaldson, J. Kwiatkowski, R. Moshier, A. L. Rigatti, M. H. Romanofsky, L. J. Waxer, and J. H. Kelly, "Power Balancing a Multibeam Laser," Proc. SPIE **10898**, 108980A (2019).

2456. D. Broege, S. Fochs, G. Brent, J. Bromage, C. Dorrer, R. F. Earley, M. J. Guardalben, J. A. Marozas, R. G. Roides, J. Sethian, X. Wang, D. Weiner, J. Zweiback, and J. D. Zuegel, "The Dynamic Compression Sector Laser: A 100-J UV Laser for Dynamic Compression Research," Rev. Sci. Instrum. **90** (5), 053001 (2019).

2455. S.-W. Bahk, "Current Status of Chirped–Pulse Amplification Technology and Its Applications," Phys. High Technol. **27** (17), 16–22 (2018).

2454. R. Ghosh, O. Swart, S. Westgate, B. L. Miller, and M. Z. Yates, "Antibacterial Copper—Hydroxyapatite Composite Coatings via Electrochemical Synthesis," Langmuir **35** (17), 5957–5966 (2019).

2453. D. Broege and J. Bromage, "Measurements of Heat Flow from Surface Defects in Lithium Triborate," Opt. Express **27** (7), 10,067–10,078 (2019).

2452. A. S. Davies, D. Haberberger, J. Katz, S. Bucht, J. P. Palastro, W. Rozmus, and D. H. Froula, "Picosecond Thermodynamics in Underdense Plasmas Measured with Thomson Scattering," Phys. Rev. Lett. **122** (15), 155001 (2019).

2451. H. Aluie, "Convolutions on the Sphere: Commutation with Differential Operators," GEM – International Journal on Geomathematics **10**, 9 (2019).

2450. X. Bian and H. Aluie, "Decoupled Cascades of Kinetic and Magnetic Energy in Magnetohydrodynamic Turbulence," Phys. Rev. Lett. **122** (13), 135101 (2019).

2449. M. Stoeckl and A. A. Solodov, "Refining Instrument Response Functions with 3-D Monte Carlo Simulations of Differential Hard X-Ray Spectrometers," Nucl. Instrum. Methods Phys. Res. A **931**, 162–171 (2019).

2448. K. R. P. Kafka and S. G. Demos, "Interaction of Short Laser Pulses with Model Contamination Microparticles on a High Reflector," Opt. Lett. **44** (7), 1844–1847 (2019).

2447. A. Kar, T. R. Boehly, P. B. Radha, D. H. Edgell, S. X. Hu, P. M. Nilson, A. Shvydky, W. Theobald, D. Cao, K. S. Anderson, V. N. Goncharov, and S. P. Regan, "Simulated Refraction-Enhanced X-Ray Radiography of Laser-Driven Shocks," Phys. Plasmas **26** (3), 032705 (2019).

2446. W. A. Bittle, M. Bock, R. Boni, J. Kendrick, A. Sorce, and C. Sorce, "A Rate-Doubled 10-GHz Fiducial Comb Generator for Precision Optical Timing Calibration," Rev. Sci. Instrum. **90** (3), 035103 (2019).

2445. R. J. Henchen, M. Sherlock, W. Rozmus, J. Katz, P. E. Masson-Laborde, D. Cao, J. P. Palastro, and D. H. Froula, "Measuring Heat Flux from Collective Thomson Scattering with Non-Maxwellian Distribution Functions," Phys. Plasmas **26** (3), 032104 (2019) (invited).

2444. M. Sadek and H. Aluie, "Extracting the Spectrum of a Flow by Spatial Filtering," Phys. Rev. Fluids **3** (12), 124610 (2018).

2443. I. A. Begishev, M. Romanofsky, S. Carey, R. Chapman, G. Brent, M. J. Shoup III, J. D. Zuegel, and J. Bromage, "High-Efficiency, Large-Aperture Fifth-Harmonic–Generation of 211-nm Pulses in Ammonium Dihydrogen Phosphate Crystals for Fusion Diagnostics," Proc. SPIE 10898, 108980N (2019).

2442. R. Paul, S. X. Hu, and V. V. Karasiev, "Anharmonic and Anomalous Trends in the High-Pressure Phase Diagram of Silicon," Phys. Rev. Lett. **122** (12), 125701 (2019).

2441. C. Dorrer, "Spatiotemporal Metrology of Broadband Optical Pulses," IEEE J. Sel. Top. Quantum Electron. **25** (4), 3100216.

2440. A. Colaïtis, J. P. Palastro, R. K. Follett, I. V. Igumenshchev, and V. Goncharov, "Real and Complex Valued Geometrical Optics Inverse Ray-Tracing for Inline Field Calculations," Phys. Plasmas **26** (3), 032301 (2019).

2439. M. Zaghoo, T. R. Boehly, J. R. Rygg, P. M. Celliers, S. X. Hu, and G. W. Collins, "Breakdown of Fermi Degeneracy in the Simplest Liquid Metal," Phys. Rev. Lett. **122** (8), 085001 (2019).

2438. K. Kopp and S. G. Demos, "Microscopy with Ultraviolet Surface Excitation (MUSE) Enables Translation of Optical Biopsy Principles to Enhance Life Science Education," Proc. SPIE **10873**, 108731D (2019).

2437. D. H. Froula, J. P. Palastro, D. Turnbull, A. Davies, L. Nguyen, A. Howard, D. Ramsey, P. Franke, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, R. K. Follett, D. Haberberger, G. W. Jenkins, J. Katz, T. J. Kessler, J. L. Shaw, and J. Vieira, "Flying Focus: Spatial and Temporal Control of Intensity for Laser-Based Applications," Phys. Plasmas **26**, 032109 (2019).

2436. W. R. Donaldson and A. Consentino, "Co-Timing UV and IR Laser Pulses on the OMEGA EP Laser System," Proc. SPIE **10898**, 108980O (2019).

2435. R. B. Spielman and D. B. Reisman, "On the Design of Magnetically Insulated Transmission Lines for *Z*-Pinch Loads," Matter Radiat. Extremes **4** (2), 027402 (2019); **4** (4), 049901(E) (2019).

2434. S. G. Demos, B. N. Hoffman, C. W. Carr, D. A. Cross, R. A. Negres, and J. D. Bude, "Mechanisms of Laser-Induced Damage in Absorbing Glasses with Nanosecond Pulses," Opt. Express **27** (7), 9975–9986 (2019).

2433. B. E. Kruschwitz, J. Kwiatkowski, C. Dorrer, M Barczys, A. Consentino, D. H. Froula, M. J. Guardalben, E. M. Hill, D. Nelson, M. J. Shoup III, D. Turnbull, L. J. Waxer, and D. Weiner, "Tunable UV Upgrade on OMEGA EP," Proc. SPIE **10898**, 1089804 (2019).

2432. L. J. Waxer, K. A. Bauer, E. C. Cost, M. Heimbueger, J. H. Kelly, V. Kobilansky, S. F. B. Morse, D. Nelson, R. Peck, R. Rinefierd, S. Sampat, M. J. Shoup III, D. Weiner, G. Weselak, and J. Zou, "In Tank, On-Shot Characterization of the OMEGA Laser System Focal Spot," Proc. SPIE **10898**, 108980F (2019).

2431. K. A. Bauer, M. Heimbueger, S. Sampat, L. J. Waxer, E. Cost, J. H. Kelly, V. Kobilansky, J. Kwiatkowski, S. F. B. Morse, D. Nelson, D. Weiner, G. Weselak, and J. Zou, "Comparison of On-Shot, In-Tank, and Equivalent-Target-Plane Measurements of the OMEGA Laser System Focal Spot," Proc. SPIE **10898**, 108980G (2019).

2430. J. Serafini, A. Hossain, R. B. James, S. B. Trivedi, and R. Sobolewski, "Time-Resolved, Nonequilibrium Carrier and Coherent Acoustic Phonon Dynamics in (Cd,Mg)Te Single Crystals for Radiation Detectors, Semicond. Sci. Technol. **34** (3), 035021 (2019).

2429. J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, V. Yu. Glebov, E. C. Hansen, J. P. Knauer, J. L. Peebles, and A. B. Sefkow, "Inferring Fuel Areal Density from Secondary Neutron Yields in Laser-Driven Magnetized Liner Inertial Fusion," Phys. Plasmas **26** (2), 022706 (2019).

2428. A. R. Christopherson, R. Betti, and J. D. Lindl, "Thermonuclear Ignition and the Onset of Propagating Burn in Inertial Fusion Implosions," Phys. Rev. E **99** (2), 021201 (R) (2019).

2427. A. L. Milder, S. T. Ivancic, J. P. Palastro, and D. H. Froula, "Impact of Non-Maxwellian Electron Velocity Distribution Functions on Inferred Plasma Parameters in Collective Thomson Scattering," Phys. Plasmas **26** (2), 022711 (2019).

2426. M. J. Rosenberg, D. B. Thorn, N. Izumi, D. Williams, M. Rowland, G. Torres, M. Haugh, P. Hillyard, N. Adelman, T. Schuler, M. A. Barrios, J. P. Holder, M. B. Schneider, K. B. Fournier, D. K. Bradley, and S. P. Regan, "Image-Plate Sensitivity to X Rays at 2 to 60 keV," Rev. Sci. Instrum. **90** (1), 013506 (2019); **90** (2) 029902 (2019).

2425. J. Bromage, S.-W. Bahk, I. A. Begishev, C. Dorrer, M. J. Guardalben, B. N. Hoffman, J. B. Oliver, R. G. Roides, E. M. Schiesser, M. J. Shoup III, M. Spilatro, B. Webb, D. Weiner, and J. D. Zuegel, "Technology Development for Ultraintense All-OPCPA Systems," High Laser Power Sci. Eng. **7**, e4 (2019).

2424. X. Zhang, Y. Zhang, and M. Z. Yates, "Hydroxyapatite Nanocrystal Deposited Titanium Dioxide Nanotubes Loaded with Antibiotics for Combining Biocompatibility and Antibacterial Properties," MRS Advances **3** (30), 1703–1709 (2018).

2423. X. Zhang and M. Z. Yates, "Enhanced Photocatalytic Activity of TiO_2 Nanoparticles Supported on Electrically Polarized Hydroxyapatite," ACS Appl. Mater. Inter. **10** (20), 17,232–17,239 (2018).

2422. J. M. Soures, S. J. Loucks, R. L. McCrory, C. P. Verdon, A. Babushkin, R. E. Bahr, T. R. Boehly, R. Boni, D. K. Bradley, D. L. Brown, J. A. Delettrez, R. S. Craxton, W. R. Donaldson, R. Epstein, R. Gram, D. R. Harding, 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. 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. W. Short, M. J. Shoup, III, M. D. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. Wittman, and B. Yaakobi, "The Role of the Laboratory for Laser Energetics in the National Ignition Facility Project," Fusion Technol. **30** (3P2A), 492–496 (1996).

2421. S. Papernov, A. W. Schmid, J. Anzelotti, D. Smith, and Z. R. Chrzan, "AFM-Mapped, Nanoscale, Absorber-Driven Laser Damage in UV High-Reflector Multilayers," Proc. SPIE **2714**, 384–394 (1996).

2420. V. Gopalaswamy, R. Betti, J. P. Knauer, N. Luciani, D. Patel, K. M. Woo, A. Bose, I. V. Igumenshchev, E. M. Campbell, K. S. Anderson, K. A. Bauer, M. J. Bonino, D. Cao, A. R. Christopherson, G. W. Collins, T. J. B. Collins, J. R. Davies, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Y. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, O. M. Mannion, A. Maximov, F. J. Marshall, D. T. Michel, S. Miller, S. F. B. Morse, J. Palastro, J. Peebles, P. B. Radha, S. P. Regan, S. Sampat, T. C. Sangster, A. B. Sefkow, W. Seka, R. C. Shah, W. T. Shmayda, A. Shvydky, C. Stoeckl, A. A. Solodov, W. Theobald, J. D. Zuegel, M. Gatu Johnson, R. D. Petrasso, C. K. Li, and J. A. Frenje, "Tripled Yield in Direct-Drive Laser Fusion Through Statistical Modelling," Nature **565**, 581−586 (2019).

2419. A. A. Kozlov, J. C. Lambropoulos, J. B. Oliver, B. N. Hoffman, and S. G. Demos, "Mechanisms of Picosecond Laser-Induced Damage in Common Multilayer Dielectric Coatings, Sci. Rep. **9** (1), 607 (2019).

2418. M. J. Rosenberg, R. Epstein, A. A. Solodov, W. Seka, J. F. Myatt, P. A. Michel, M. A. Barrios, D. B. Thorn, M. Hohenberger, J. D. Moody, and S. P. Regan, "X-Ray Spectroscopy of Planar Laser-Plasma Interaction Experiments at the National Ignition Facility," Phys. Plasmas **26** (1), 012703 (2019).

2417. A. Koroliov, G. Chen, K. M. Goodfellow, A. N. Vamivakas, Z. Staniszewski, P. Sobolewski, M. El Fray, A. Łaszcz, A. Czerwinski, C. P. Richter, and R. Sobolewski, "Terahertz Time-Domain Spectroscopy of Graphene Nanoflakes Embedded in Polymer Matrix," Appl. Sci. **9** (3), 391 (2019).

2416. S. X. Hu, V. N. Goncharov, P. B. Radha, S. P. Regan, and E. M. Campbell, "Microphysics Studies for Direct-Drive Inertial Confinement Fusion," Nucl. Fusion **59** (3), 032011 (2019).

2415. B. Webb, M. J. Guardalben, C. Dorrer, S. Bucht, and J. Bromage, "Simulation of Grating Compressor Misalignment Tolerances and Mitigation Strategies for Chirped-Pulse–Amplification Systems of Varying Bandwidths and Beam Sizes," Appl. Opt. **58** (2), 234–243 (2019).

2414. J. P. Palastro, J. G. Shaw, R. K. Follett, A. Colaïtis, D. Turnbull, A. V. Maximov, V. N. Goncharov, and D. H. Froula, "Resonance Absorption of a Broadband Laser Pulse," Phys. Plasmas **25** (12), 123104 (2018).

2413. S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, R. Betti, J. W. Bates, K. Bauer, T. Bernat, S. Bhandarkar, T. R. Boehly, M. J. Bonino, A. Bose, D. Cao, L. Carlson, R. Chapman, T. Chapman, G. W. Collins, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, M. Farrell, C. J. Forrest, R. K. Follett, J. A. Frenje, D. H. Froula, M. Gatu Johnson, C. R. Gibson, L. Gonzalez, C. Goyon, V. Yu. Glebov, V. Gopalaswamy, A. Greenwood, D. R. Harding, M. Hohenberger, S. X. Hu, H. Huang, J. Hund, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, M. Karasik, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, R. Luo, S. J. Loucks, J. A. Marozas, F. J. Marshall, M. Mauldin, R. L. McCrory, P. W. McKenty, D. T. Michel, P. Michel, J. D. Moody, J. F. Myatt, A. Nikroo, P. M. Nilson, S. P. Obenschain, J. P. Palastro, J. Peebles, R. D. Petrasso, N. Petta, P. B. Radha, J. E. Ralph, M. J. Rosenberg, S. Sampat, A. J. Schmitt, M. J. Schmitt, M. Schoff, W. Seka, R. Shah, J. R. Rygg, J. G. Shaw, R. Short, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Sorce, M. Stadermann, C. Stoeckl, W. Sweet, C. Taylor, R. Taylor, W. Theobald, D. P. Turnbull, J. Ulreich, M. D. Wittman, K. M. Woo, K. Youngblood, and J. D. Zuegel, "The National Direct-Drive Inertial Confinement Fusion Program," Nucl. Fusion **59** (3), 032007 (2019).

2412. E. C. Hansen, D. H. Barnak, P.-Y. Chang, R. Betti, E. M. Campbell, J. R. Davies, J. P. Knauer, J. L. Peebles, S. P. Regan, and A. B. Sefkow, "Optimization of Laser-Driven Cylindrical Implosions on the OMEGA Laser," Phys. Plasmas **25** (12), 122701 (2018).

2411. D. Turnbull, S.-W. Bahk, I. A. Begishev, R. Boni, J. Bromage, S. Bucht, A. Davies, P. Franke, D. Haberberger, J. Katz, T. J. Kessler, A. L. Milder, J. P. Palastro, J. L. Shaw, and D. H. Froula, "Flying Focus and Its Application to Plasma-Based Laser Amplifiers," Plasma Phys. Control. Fusion **61** (1), 014022 (2019).

2410. C. Dorrer and S.-W. Bahk, "Spatio-Spectral Characterization of Broadband Fields Using Multispectral Imagining," Opt. Express **26** (25), 33387-33399 (2018).

2409. S. Sampat, T. Z. Kosc, K. A. Bauer, R. D. Dean, W. R. Donaldson, J. Kwiatkowski, R. Moshier, A. L. Rigatti, M. H. Romanofsky, L. J. Waxer, and J. H. Kelly, "Power Balancing the Multibeam OMEGA Laser," Appl. Opt. **57** (32), 9571–9583 (2018).

2408. D. R. Harding, M. J. Bonino, W. Sweet, M. Schoff, A. Greenwood, N. Satoh, M. Takagi, and A. Nikroo, "Properties of Vapor-Deposited and Solution-Processed Targets for Laser-Driven Inertial Confinement Fusion Experiments," Matter Radiat. Extremes **3** (6), 312–321 (2018).

2407. C. Dorrer and R. J. Brown, "Stable Low-Repetition-Rate Time-Lens Picosecond Seed Source," IEEE Photonics Technol. Lett. **30** (21), 1854–1857 (2018).

2406. K. M. Woo, R. Betti, D. Shvarts, O. M. Mannion, D. Patel, V. N. Goncharov, K. S. Anderson, P. B. Radha, J. P. Knauer, A. Bose, V. Gopalaswamy, A. R. Christopherson, E. M. Campbell, J. Sanz, and H. Aluie, "Impact of Three-Dimensional Hot-Spot Flow Asymmetry on Ion-Temperature Measurements in Inertial Confinement Fusion Experiments," Phys. Plasmas **25** (10), 102710 (2018).

2405. H. Zhang, R. Betti, R. Yan, D. Zhao, D. Shvarts, and H. Aluie, "Self-Similar Multimode Bubble-Front Evolution of the Ablative Rayleigh–Taylor Instability in Two and Three Dimensions," Phys. Rev. Lett. **121** (18), 185002 (2018).

2404. C. Stoeckl, T. Filkins, R. Jungquist, C. Mileham, N. R. Pereira, S. P. Regan, M. J. Shoup III, and W. Theobald, "Characterization of Shaped Bragg Crystal Assemblies for Narrowband X-Ray Imaging," Rev. Sci. Instrum. **89** (10), 10G124 (2018).

2403. X. Zhang and M. Z. Yates, "Controllable Synthesis of Hydroxyapatite-Supported Palladium Nanoparticles with Enhanced Catalytic Activity," Surf. Coat. Technol. **351**, 60–67 (2018).

2402. E. M. Schiesser, S.-W. Bahk, J. Bromage, and J. P. Rolland, "Gaussian Curvature and Stigmatic Imaging Relations for the Design of an Unobscured Reflective Relay," Opt. Lett. **43** (20), 4855–4858 (2018).

2401. R. K. Follett, J. G. Shaw, J. F. Myatt, V. N. Goncharov, D. H. Edgell, D. H. Froula, and J. P. Palastro, "Ray-Based Modeling of Cross-Beam Energy Transfer at Caustics," Phys. Rev. E **98** (4), 043202 (2018).

2400. C. Dorrer and J. Qiao, "Direct Binary Search for Improved Coherent Beam Shaping and Optical Differentiation Wavefront Sensing," Appl. Opt. **57** (29), 8557–8565 (2018).

2399. O. M. Mannion, V. Yu. Glebov, C. J. Forrest, J. P. Knauer, V. N. Goncharov, S. P. Regan, T. C. Sangster, C. Stoeckl, and M. Gatu Johnson, "Calibration of a Neutron Time-of-Flight Detector with a Rapid Instrument Response Function for Measurements of Bulk Fluid Motion on OMEGA," Rev. Sci. Instrum. **89** (10), 10I131 (2018).

2398. W. Theobald, C. Sorce, M. Bedzyk, S. T. Ivancic, F. J. Marshall, C. Stoeckl, R. C. Shah, M. Lawrie, S. P. Regan, T. C. Sangster, E. M. Campbell, T. J. Hilsabeck, K. Engelhorn, J. D. Kilkenny, D. Morris, T. M. Chung, J. D. Hares, A. K. L. Dymoke-Bradshaw, P. Bell, J. Celeste, A. C. Carpenter, M. Dayton, D. K. Bradley, M. C. Jackson, L. Pickworth, S. R. Nagel, G. Rochau, J. Porter, M. Sanchez, L. Claus, G. Robertson, and Q. Looker, "The Single-Line-of-Sight, Time-Resolved X-Ray Imager Diagnostic on OMEGA," Rev. Sci. Instrum. **89** (10), 10G117 (2018).

2397. V. Yu. Glebov, M. J. Eckart, C. J. Forrest, G. P. Grim, E. P. Hartouni, R. Hatarik, J. P. Knauer, A. S. Moore, S. P. Regan, T. C. Sangster, D. J. Schlossberg, and C. Stoeckl, "Testing a Cherenkov Neutron Time-of-Flight Detector on OMEGA," Rev. Sci. Instrum. **89** (10), 10I122 (2018).

2396. Y. H. Ding, A. J. White, S. X. Hu, O. Certik, and L. A. Collins, "*Ab Initio* Studies on the Stopping Power of Warm Dense Matter with Time-Dependent Orbital-Free Density Functional Theory," Phys. Rev. Lett. **121** (14), 145001 (2018).

2395. J. A. Gaffney, S. X. Hu, P. Arnault, A. Becker, L. X. Benedict, T. R. Boehly, P. M. Celliers, D. M. Ceperley, O. Čertík, J. Clérouin, G. W. Collins, L. A. Collins, J.-F. Danel, N. Desbiens, M. W. C. Dharma-wardana, Y. H. Ding, A. Fernandez-Pañella, M. C. Gregor, P. Grabowski, S. Hamel, S. B. Hansen, L. Harbour, X. T. He, D. D. Johnson, W. Kang, V. V. Karasiev, L. Kazandjian, M. D. Knudson, T. Ogitsu, C. Pierleoni, R. Piron, R. Redmer, G. Robert, D. Saumon, A. Shamp, T. Sjostrom, A. V. Smirnov, C. E. Starrett, P. A. Sterne, A. Wardlow, H. D. Whitley, B. Wilson, P. Zhang, and E. Zurek, "A Review of Equation-of-State Models for Inertial Confinement Fusion Materials," High Energy Density Phys. **28**, 7–24 (2018).

2394. R. J. Henchen, M. Sherlock, W. Rozmus, J. Katz, D. Cao, J. P. Palastro, and D. H. Froula, "Observation of Nonlocal Heat Flux Using Thomson Scattering," Phys. Rev. Lett. **121** (12), 125001 (2018).

2393. W. L. Shang, C. Stoeckl, R. Betti, S. P. Regan, T. C. Sangster, S. X. Hu, A. Christopherson, V. Gopalaswamy, D. Cao, W. Seka, D. T. Michel, A. K. Davis, P. B. Radha, F. J. Marshall, R. Epstein, and A. A. Solodov, "Properties of Hot-Spot Emission in a Warm Plastic-Shell Implosion on the OMEGA Laser System," Phys. Rev. E **98** (3), 033210 (2018).

2392. D. N. Polsin, D. E. Fratanduono, J. R. Rygg, A. Lazicki, R. F. Smith, J. H. Eggert, M. C. Gregor, B. J. Henderson, X. Gong, J. A. Delettrez, R. G. Kraus, P. M. Celliers, F. Coppari, D. C. Swift, C. A. McCoy, C. T. Seagle, J.-P. Davis, S. J. Burns, G. W. Collins, and T. R. Boehly, "X-Ray Diffraction of Ramp-Compressed Aluminum to 475 GPa," Phys. Plasmas **25** (8), 082709 (2018).

2391. Y. Zhao and W. R. Donaldson, "Response Analysis on AlGaN Metal–Semiconductor–Metal Photodetectors in a Perspective of Experiment and Theory and the Persistent Photoconductivity Effect," J. Mater. Res. **33** (17), 2627–2636 (2018).

2390. Y. Zhao and W. R. Donaldson, "Systematic Study on Aluminum Composition Nonuniformity in Aluminum Gallium Nitride Metal–Semiconductor–Metal Photodetectors," IEEE Trans. Electron Devices **65** (10), 4441–4447 (2018).

2389. A. Howard, D. Haberberger, R. Boni, R. Brown, and D. H. Froula, "Implementation of a Wollaston Interferometry Diagnostic on OMEGA EP," Rev. Sci. Instrum. **89** (10), 10B107 (2018).

2388. P. M. Celliers, M. Millot, S. Brygoo, R. S. McWilliams, D. E. Fratanduono, J. R. Rygg, A. F. Goncharov, P. Loubeyre, J. H. Eggert, J. L. Peterson, N. B. Meezan, S. Le Pape, G. W. Collins, R. Jeanloz, and R. J. Hemley, "Insulator-Metal Transition in Dense Fluid Deuterium," Science **361**, 677–682 (2018).

2387. C. Dorrer, A. Kalb, P. Fiala, S.-W. Bahk, A. Sharma, and K. Gibney, "Investigation of an Apodized Imaged Hartmann Wavefront Sensor," Appl. Opt. **57** (25), 7266–7275 (2018).

2386. R. Xin and J. D. Zuegel, "Chirped-Pulse–Amplification Seed Source Through Direct Phase Modulation," Opt. Express **26** (16), 21,332–21,345 (2018).

2385. T. J. B. Collins and J. A. Marozas, "Mitigation of Cross-Beam Energy Transfer in Ignition-Scale Polar-Direct-Drive Target Designs for the National Ignition Facility," Phys. Plasmas **25** (7), 072706 (2018).

2384. S. X. Hu, W. Theobald, P. B. Radha, J. L. Peebles, S. P. Regan, A. Nikroo, M. J. Bonino, D. R. Harding, V. N. Goncharov, N. Petta, T. C. Sangster, and E. M. Campbell, "Mitigating Laser-Imprint Effects in Direct-Drive Inertial Confinement Fusion Implosions with an Above-Critical-Density Foam Layer," Phys. Plasmas **25** (8), 082710 (2018).

2383. K. Luo, V. V. Karasiev, and S. B. Trickey, "A Simple Generalized Gradient Approximation for the Noninteracting Kinetic Energy Density Functional," Phys. Rev. B **98** (4), 041111(R) (2018).

2382. C. Z. R. Huang, R. W. Wood, and S. G. Demos, "Adaptation of Microscopy with Ultraviolet Surface Excitation for Enhancing STEM and Undergraduate Education," J. Biomed. Opt. **23** (12), 121603 (2018).

2381. M. Zaghoo and G. W. Collins, "Size and Strength of Self-Excited Dynamos in Jupiter-Like Extrasolar Planets," Astrophys. J. **862** (1), 19 (2018).

2380. A. R. Christopherson, R. Betti, J. Howard, K. M. Woo, A. Bose, E. M. Campbell and V. Gopalaswamy, "Theory of Alpha Heating in Inertial Fusion: Alpha-Heating Metrics and the Onset of the Burning-Plasma Regime," Phys. Plasmas **25** (7), 072704 (2018).

2379. W. Grimble, F. J. Marshall, and E. Lambrides, "Measurement of Cryogenic Target Position and Implosion Core Offsets on OMEGA," Phys. Plasmas **25** (7), 072702 (2018).

2378. J. R. Davies, R. E. Bahr, D. H. Barnak, R. Betti, M. J. Bonino, E. M. Campbell, E. C. Hansen, D. R. Harding, J. L. Peebles, A. B. Sefkow, W. Seka, P.-Y. Chang, M. Geissel, and A. J. Harvey-Thompson, "Laser Entrance Window Transmission and Reflection Measurements for Preheating in Magnetized Liner Inertial Fusion," Phys. Plasmas **25** (6), 062704 (2018).

2377. M. Stoeckl and A. A. Solodov, "Readout Models for $BaFBr_{0.85}I_{0.15}$:Eu Image Plates," Rev. Sci. Instrum. **89** (6), 063101 (2018).

2376. M. Zaghoo, "Dynamic Conductivity and Partial Ionization in Dense Fluid Hydrogen," Phys. Rev. E **97** (4), 043205 (2018).

2375. A. M. Hansen, D. Haberberger, J. Katz, D. Mastrosimone, R. K. Follett, and D. H. Froula, "Supersonic Gas-Jet Characterization with Interferometry and Thomson Scattering on the OMEGA Laser System," Rev. Sci. Instrum. **89** (10), 10C103 (2018).

2374. D. H. Edgell, J. Katz, D. P. Turnbull, and D. H. Froula, "Unabsorbed Light Beamlets for Diagnosing Cross-Beam Energy Transfer," Rev. Sci. Instrum. **89** (10), 10E101 (2018).

2373. S. M. Gracewski, S. Boylan, J. C. Lambropoulos, J. B. Oliver, T. J. Kessler, and S. G. Demos, "Simulation of Internal Stress Waves Generated by Laser-Induced Damage in Multilayer Dielectric Gratings," Opt. Express **26** (14), 18,412–18,422 (2018).

2372. D. Zhao and H. Aluie, "Inviscid Criterion for Decomposing Scales," Phys. Rev. Fluids **3** (5), 054603 (2018).

2371. D. E. Fratanduono, M. Millot, R. G. Kraus, D. K. Spaulding, G. W. Collins, P. M. Celliers, and J. H. Eggert, "Thermodynamic Properties of $MgSiO_3$ at Super-Earth Mantle Conditions," Phys. Rev. B **97** (21), 214105 (2018).

2370. S. Papernov, M. D. Brunsman, J. B. Oliver, B. N. Hoffman, A. A. Kozlov, S. G. Demos, A. Shvydky, F. H. M. Cavalcante, L. Yang, C. S. Menoni, B. Roshanzadeh, S. T. P. Boyd, L. A. Emmert, and W. Rudolph, "Optical Properties of Oxygen Vacancies in HfO_2 Thin Films Studied by Absorption and Luminescence Spectroscopy," Opt. Express **26** (13), 17608 (2018).

2369. D. Cao, T. R. Boehly, M. C. Gregor, D. N. Polsin, A. K. Davis, P. B. Radha, S. P. Regan, and V. N. Goncharov, "Theoretical Quantification of Shock-Timing Sensitivities for Direct-Drive Inertial Confinement Fusion Implosions on OMEGA," Phys. Plasmas **25** (5), 052705 (2018).

2368. J. Trela, W. Theobald, K. S. Anderson, D. Batani, R. Betti, A. Casner, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, X. Ribeyre, A. A. Solodov, M. Stoeckl, and C. Stoeckl, "The Control of Hot-Electron Preheat in Shock-Ignition Implosions," Phys. Plasmas **25** (5), 052707 (2018).

2367. C. R. Stillman, P. M. Nilson, A. B. Sefkow, S. T. Ivancic, C. Mileham, I. A. Begishev, and D. H. Froula, "Energy Transfer Dynamics in Strongly Inhomogeneous Hot-Dense-Matter Systems," Phys. Rev. E **97** (6), 063208 (2018).

2366. J. B. Oliver, S. MacNally, C. Smith, B. N. Hoffman, J. Spaulding, J. Foster, S. Papernov, and T. J. Kessler, "Fabrication of a Glancing-Angle–Deposited Distributed Polarization Rotator for Ultraviolet Applications," Proc. SPIE **10691**, 106911C (2018).

2365. R. F. Smith, D. E. Fratanduono, D. G. Braun, T. S. Duffy, J. K. Wicks, P. M. Celliers, S. J. Ali, A. Fernandez-Pañella, R. G. Kraus, D. C. Swift, G. W. Collins, and J. H. Eggert, "Equation of State of Iron Under Core Conditions of Large Rocky Exoplanets," Nat. Astron. **2**, 452–458 (2018).

2364. I. A. Begishev, J. Bromage, S. T. Yang, P. S. Datte, S. Patankar, and J. D. Zuegel, "Record Fifth-Harmonic-Generation Efficiency Producing 211 nm, Joule-Level Pulses Using Cesium Lithium Borate," Opt. Lett. **43** (11), 2462–2465 (2018).

2363. A. Bose, R. Betti, D. Mangino, K. M. Woo, D. Patel, A. R. Christopherson, V. Gopalaswamy, O. M. Mannion, S. P. Regan, V. N. Goncharov, D. H. Edgell, C. J. Forrest, J. A. Frenje, M. Gatu Johnson, V. Yu. Glebov, I. V. Igumenshchev, J. P. Knauer, F. J. Marshall, P. B. Radha, R. Shah, C. Stoeckl, W. Theobald, T. C. Sangster, D. Shvarts, and E. M. Campbell, "Analysis of Trends in Experimental Observables: Reconstruction of the Implosion Dynamics and Implications for Fusion Yield Extrapolation for Direct-Drive Cryogenic Targets on OMEGA," Phys. Plasmas **25** (6), 062701 (2018).

2362. J. A. Marozas, M. Hohenberger, M. J. Rosenberg, D. Turnbull, T. J. B. Collins, P. B. Radha, P. W. McKenty, J. D. Zuegel, F. J. Marshall, S. P. Regan, T. C. Sangster, W. Seka, E. M. Campbell, V. N. Goncharov, M. W. Bowers, J.-M. G. Di Nicola, G. Erbert, B. J. MacGowan, L. J. Pelz, J. Moody, and S. T. Yang, "Wavelength-Detuning Cross-Beam Energy Transfer Mitigation Scheme for Direct Drive: Modeling and Evidence from National Ignition Facility Implosions," Phys. Plasmas **25** (5), 056314 (2018) (invited).

2361. D. Turnbull, P. Franke, J. Katz, J. P. Palastro, I. A. Begishev, R. Boni, J. Bromage, A. L. Milder, J. L. Shaw, and D. H. Froula, "Ionization Waves of Arbitrary Velocity," Phys. Rev. Lett. **120** (22), 225001 (2018).

2360. J. W. Wallace, A. Shestopalov, T. Kosc, and S. H. Chen, "Scalable Synthesis of Cholesteric Glassy Liquid Crystals," Ind. Eng. Chem. Res. **57** (12), 4470–4473 (2018).

2359. D. T. Michel, I. V. Igumenshchev, A. K. Davis, D. H. Edgell, D. H. Froula, D. W. Jacobs-Perkins, V. N. Goncharov, S. P. Regan, A. Shvydky, and E. M. Campbell, "Subpercent-Scale Control of 3D Low Modes of Targets Imploded in Direct-Drive Configuration on OMEGA," Phys. Rev. Lett. **120** (12), 125001 (2018).

2358. F. Weilacher, P. B. Radha, and C. Forrest, "Three-Dimensional Modeling of the Neutron Spectrum to Infer Plasma Conditions in Cryogenic Inertial Confinement Fusion Implosions," Phys. Plasmas **25** (4), 042704 (2018).

2357. K. M. Woo, R. Betti, D. Shvarts, A. Bose, D. Patel, R. Yan, P.-Y. Chang, O. M. Mannion, R. Epstein, J. A. Delettrez, M. Charissis, K. S. Anderson, P. B. Radha, A. Shvydky, I. V. Igumenshchev, V. Gopalaswamy, A. R. Christopherson, J. Sanz, and H. Aluie, "Effects of Residual Kinetic Energy on Yield Degradation and Ion Temperature Asymmetries in Inertial Confinement Fusion Implosions," Phys. Plasmas **25** (5), 052704 (2018).

2356. E. C. Hansen, D. H. Barnak, R. Betti, E. M. Campbell, P.-Y. Chang, J. R. Davies, V. Yu. Glebov, J. P. Knauer, J. Peebles, S. P. Regan, and A. B. Sefkow, "Measuring Implosion Velocities in Experiments and Simulations of Laser-Driven Cylindrical Implosions on the OMEGA Laser," Plasma Phys. Control. Fusion **60** (5), 054014 (2018).

2355. M. D. Sharpe, C. Fagan, W. T. Shmayda, and W. U. Schröder, "Partitioning of Tritium Between Surface and Bulk of 316 Stainless Steel at Room Temperature," Fusion Eng. Des. **130**, 76–79 (2018).

2354. D. H. Froula, D. Turnbull, A. S. Davies, T. J. Kessler, D. Haberberger, J. P. Palastro, S.-W. Bahk, I. A. Begishev, R. Boni, S. Bucht, J. Katz, and J. L. Shaw, "Spatiotemporal Control of Laser Intensity," Nature Photon. **12** (5), 262–265 (2018).

2353. S. X. Hu, L. A. Collins, T. R. Boehly, Y. H. Ding, P. B. Radha, V. N. Goncharov, V. V. Karasiev, G. W. Collins, S. P. Regan, and E. M. Campbell, "A Review on *Ab Initio* Studies of Static, Transport, and Optical Properties of Polystyrene Under Extreme Conditions for Inertial Confinement Fusion Applications," Phys. Plasmas **25** (5), 056306 (2018).

2352. D. Turnbull, A. Colaïtis, R. K. Follett, J. P. Palastro, D. H. Froula, P. Michel, C. Goyon, T. Chapman, L. Divol, G. E. Kemp, D. Mariscal, S. Patankar, B. B. Pollock, J. S. Ross, J. D. Moody, E. R. Tubman, and N. C. Woolsey, "Crossed-Beam Energy Transfer: Polarization Effects and Evidence of Saturation," Plasma Phys. Control. Fusion **60** (5), 054017 (2018).

2351. L. Ceurvorst, A. Savin, N. Ratan, M. F. Kasim, J. Sadler, P. A. Norreys, H. Habara, K. A. Tanaka, S. Zhang, M. S. Wei, S. Ivancic, D. H. Froula, and W. Theobald, "Channel Optimization of High-Intensity Laser Beams in Millimeter-Scale Plasmas," Phys. Rev. E **97** (4), 043208 (2018).

2350. S.-W. Bahk, C. Dorrer, and J. Bromage, "Chromatic Diversity: A New Approach for Characterizing Spatiotemporal Coupling of Ultrashort Pulses," Opt. Express **26** (7), 8767–8777 (2018).

2349. R. K. Follett, J. G. Shaw, J. F. Myatt, J. P. Palastro, R. W. Short, and D. H. Froula, "Suppressing Two-Plasmon Decay with Laser Frequency Detuning," Phys. Rev. Lett. **120** (13), 135005 (2018).

2348. J. P. Palastro, D. Turnbull, S.-W. Bahk, R. K. Follett, J. L. Shaw, D. Haberberger, J. Bromage, and D. H. Froula, "Ionization Waves of Arbitrary Velocity Driven by a Flying Focus," Phys. Rev. A **97** (3), 033835 (2018).

2347. M. D. Wittman, M. J. Bonino, D. H. Edgell, C. Fella, D. R. Harding, and J. Sanchez, "Effect of Tritium-Induced Damage on Plastic Targets from High-Density DT Permeation," Fusion Sci. Technol. **73** (3), 315–323 (2018).

2346. D. R. Harding, J. Ulreich, M. D. Wittman, R. Chapman, C. Taylor, R. Taylor, N. P. Redden, J. C. Lambropoulos, R. Q. Gram, M. J. Bonino, and D. W. Turner, "Requirements and Capabilities for Fielding Cryogenic DT-Containing Fill-Tube Targets for Direct-Drive Experiments on OMEGA," Fusion Sci. Technol. **73** (3), 324–334 (2018).

2345. C. J. Forrest, J. P. Knauer, W. U. Schroeder, V. Yu. Glebov, P. B. Radha, S. P. Regan, T. C. Sangster, M. Sickles, C. Stoeckl, and J. Szczepanski, "Nuclear Science Experiments with a Bright Neutron Source from Fusion Reactions on the OMEGA Laser System," Nuclear Instrum. Methods Phys. Res. A **888**, 169–176 (2018).

2344. D. H. Barnak, J. R. Davies, G. Fiksel, P.-Y. Chang, E. Zabir, and R. Betti, "Increasing the Magnetic-Field Capability of the Magneto-Inertial Fusion Electrical Discharge System Using an Inductively Coupled Coil," Rev. Sci. Instrum. **89** (3), 033501 (2018).

2343. A. R. Christopherson, R. Betti, A. Bose, J. Howard, K. M. Woo, E. M. Campbell, J. Sanz, and B. K. Spears, "A Comprehensive Alpha-Heating Model for Inertial Confinement Fusion," Phys. Plasmas **25** (1), 012703 (2018).

2342. S. Sampat, J. H. Kelly, T. Z. Kosc, A. L. Rigatti, J. Kwiatkowski, W. R. Donaldson, M. H. Romanofsky, L. J. Waxer, R. Dean, and R. Moshier, "Power Balance on a Multibeam Laser," Proc. SPIE **10511**, 105110P (2018).

2341. L. J. Waxer, C. Dorrer, A. Kalb, E. M. Hill, and W. Bittle, "Single-Shot Temporal Characterization of Kilojoule-Level, Picosecond Pulses on OMEGA EP," Proc. SPIE **10522**, 105221E (2018).

2340. N. D. Viza and D. R. Harding, "Performance of Different 'Lab-On-Chip' Geometries for Making Double Emulsions to Form Polystyrene Shells," Fusion Sci. Technol. **73** (2), 248–257 (2018).

2339. S. P. Regan, V. N. Goncharov, T. C. Sangster, E. M. Campbell, R. Betti, K. S. Anderson, T. Bernat, A. Bose, T. R. Boehly, M. J. Bonino, D. Cao, R. Chapman, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, M. Farrell, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu Johnson, C. Gibson, V. Yu. Glebov, A. Greenwood, D. R. Harding, M. Hohenberger, S. X. Hu, H. Huang, J. Hund, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, M. Karasik, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Obenschain, R. D. Petrasso, N. Petta, P. B. Radha, M. J. Rosenberg, A. J. Schmitt, M. J. Schmitt, M. Schoff, W. Seka, W. T. Shmayda, M. J. Shoup III, A. Shvydky, A. A. Solodov, C. Stoeckl, W. Sweet, C. Taylor, R. Taylor, W. Theobald, J. Ulreich, M. D. Wittman, K. M. Woo, and J. D. Zuegel, "The National Direct-Drive Program: OMEGA to the National Ignition Facility," Fusion Sci. Technol. **73** (2), 89–97 (2018).

2338. K. R. P. Kafka, B. Hoffman, S. Papernov, M. A DeMarco, C. Hall, K. L. Marshall, and S. G. Demos, "Methods for Improving the Damage Performance of Fused Silica Polished by Magnetorheological Finishing," Proc. SPIE **10447**, 1044709 (2017).

2337. J. L. Shaw, N. Lemos, K. A. Marsh, D. H. Froula, and C. Joshi, "Experimental Signatures of Direct-Laser-Acceleration-Assisted Laser Wakefield Acceleration," Plasma Phys. Control. Fusion **60** (4), 044012 (2018).

2336. T. Z. Kosc, K. L. Marshall, A. A. Kozlov, S. Papernov, and S. G. Demos, "Damage Testing of Nematic Liquid Crystalline Materials for Femtosecond to Nanosecond Pulse Lengths at 1053 nm," Proc. SPIE **10447**, 104471G (2017).

2335. K. R. P. Kafka, S. Papernov, and S. G. Demos, "Enhanced Laser Conditioning Using Temporally Shaped Pulses," Opt. Lett. **43** (6), 1239–1242 (2018).

2334. R. Boni, J. Kendrick, and C. Sorce, "An Optically Passive Method that Doubles the Rate of 2-Ghz Timing Fiducials," Proc. SPIE **10390**, 1039003 (2017).

2333. J. A. Marozas, M. Hohenberger, M. J. Rosenberg, D. Turnbull, T. J. B. Collins, P. B. Radha, P. W. McKenty, J. D. Zuegel, F. J. Marshall, S. P. Regan, T. C. Sangster, W. Seka, E. M. Campbell, V. N. Goncharov, M. W. Bowers, J.-M. G. Di Nicola, G. Erbert, B. J. MacGowan, L. J. Pelz, and S. T. Yang, "First Observation of Cross-Beam Energy Transfer Mitigation for Direct-Drive Inertial Confinement Fusion Implosions Using Wavelength Detuning at the National Ignition Facility," Phys. Rev. Lett. **120** (8), 085001 (2018).

2332. B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "Cross-Phase-Modulation-Induced Temporal Reflection and Waveguiding of Optical Pulses," J. Opt. Soc. Am. B **35** (2), 436–445 (2018).

2331. M. J. Rosenberg, A. A. Solodov, J. F. Myatt, W. Seka, P. Michel, M. Hohenberger, R. W. Short, R. Epstein, S. P. Regan, E. M. Campbell, T. Chapman, C. Goyon, J. E. Ralph, M. A. Barrios, J. D. Moody, and J. W. Bates, "Origins and Scaling of Hot-Electron Preheat in Ignition-Scale Direct-Drive Inertial Confinement Fusion Experiments," Phys. Rev. Lett. **120** (5), 055001 (2018).

2330. V. V. Karasiev, J. W. Dufty, and S. B. Trickey, "Nonempirical Semilocal Free-Energy Density Functional for Matter Under Extreme Conditions," Phys. Rev. Lett. **120** (7), 076401 (2018).

2329. P. Fiala, Y. Li, and C. Dorrer, "Investigation of Focusing and Correcting Aberrations with Binary Amplitude and Polarization Modulation," Appl. Opt. **57** (4), 763–771 (2018).

2328. A. Jukna, J. Gradauskas, A. Sužiedelis, A. Maneikis, K. Šliužienė, and R. Sobolewski, "Investigation of the *I–V* Characteristics Asymmetry in Semiconducting Y–Ba–Cu–O Diodes," Micro Nano Lett. **12** (11), 838–842 (2017).

2327. B. P. Chock, D. R. Harding, and T. B. Jones, "Using Digital Microfluidics to Dispense, Combine, and Transport Low-Surface-Energy Fluids," Fusion Sci. Technol. **73** (2), 237–247 (2018).

2326. R. K. Kirkwood, D. P. Turnbull, T. Chapman, S. C. Wilks, M. D. Rosen, R. A. London, L. A. Pickworth, W. H. Dunlop, J. D. Moody, D. J. Strozzi, P. A. Michel, L. Divol, O. Landen, B. J. MacGowan, B. M. Van Wonterghem, K. B. Fournier, and B. E. Blue, "Plasma-Based Beam Combiner for Very High Fluence and Energy," Nat. Phys. **14** (1), 80–84 (2018).

2325. S. X. Hu, "Electron-Electron Correlation in Two-Photon Double Ionization of He-Like Ions," Phys. Rev. A **97** (1), 013414 (2018).

2324. H. Zhang, R. Betti, V. Gopalaswamy, R. Yan, and H. Aluie, "Nonlinear Excitation of the Ablative Rayleigh-Taylor Instability for All Wave Numbers," Phys. Rev. E **97** (1), 011203(R) (2018).

2323. W. Theobald, A. Bose, R. Yan, R. Betti, M. Lafon, D. Mangino, A. R. Christopherson, C. Stoeckl, W. Seka, W. Shang, D. T. Michel, C. Ren, R. C. Nora, A. Casner, J. Peebles, F. N. Beg, X. Ribeyre, E. Llor Aisa, A. Colaïtis, V. Tikhonchuk, and M. S. Wei, "Enhanced Hot-Electron Production and Strong-Shock Generation in Hydrogen-Rich Ablators for Shock Ignition," Phys. Plasmas **24** (12), 120702 (2017).

2322. D. Turnbull, S. Bucht, A. Davies, D. Haberberger, T. Kessler, J. L. Shaw, and D. H. Froula, "Raman Amplification with a Flying Focus," Phys. Rev. Lett. **120** (2), 024801 (2018).

2321. R. K. Follett, J. F. Myatt, J. G. Shaw, D. T. Michel, A. A. Solodov, D. H. Edgell, B. Yaakobi, and D. H. Froula, "Simulations and Measurements of Hot-Electron Generation Driven by the Multibeam Two-Plasmon-Decay Instability," Phys. Plasmas **24** (10), 102134 (2017).

2320. E. Llor Aisa, X. Ribeyre, G. Duchateau, T. Nguyen-Bui, V. T. Tikhonchuk, A. Colaïtis, R. Betti, A. Bose, and W. Theobald, "The Role of Hot Electrons in the Dynamics of a Laser-Driven Strong Converging Shock," Phys. Plasmas **24** (11), 112711 (2017).

2319. W. L. Shang, R. Betti, S. X. Hu, K. Woo, L. Hao, C. Ren, A. R. Christopherson, A. Bose, and W. Theobald, "Electron Shock Ignition of Inertial Fusion Targets," Phys. Rev. Lett. **119** (19), 195001 (2017).

2318. P. Angland, D. Haberberger, S. T. Ivancic, and D. H. Froula, "Angular Filter Refractometry Analysis Using Simulated Annealing," Rev. Sci. Instrum. **88** (10), 103510 (2017).

2317. R. K. Follett, D. H. Edgell, D. H. Froula, V. N. Goncharov, I. V. Igumenshchev, J. G. Shaw, and J. F. Myatt, "Full-Wave and Ray-Based Modeling of Cross-Beam Energy Transfer Between Laser Beams and Distributed Phase Plates and Polarization Smoothing," Phys. Plasmas **24** (10), 103128 (2017).

2316. A. Bose, R. Betti, D. Shvarts, and K. M. Woo, "The Physics of Long- and Intermediate-Wavelength Asymmetries of the Hot Spot: Compression Hydrodynamics and Energetics," Phys. Plasmas **24** (10), 102704 (2017).

2315. C. Dorrer, A. Consentino, R. Cuffney, I. A. Begishev, E. M. Hill, and J. Bromage, "Spectrally Tunable, Temporally Shaped Parametric Front End to Seed High-Energy Nd:Glass Laser Systems," Opt. Express **25** (22), 26,802–26,814 (2017).

2314. G. Chen, R. Shrestha, A. Amori, Z. Staniszewski, A. Jukna, A. Korliov, C. Richter, M. El Fray, T. Krauss, and R. Sobolewski, "Terahertz Time-Domain Spectroscopy

Characterization of Carbon Nanostructures Embedded in Polymer," J. Phys.: Conf. Ser. **906** (1), 012002 (2017).

2313. Y. Akbas, G. R. Savich, A. Jukna, T. Plecenik, P. Ďurina, A. Plecenik, G. W. Wicks, and R. Sobolewski, "Low-Temperature Performance of Semiconducting Asymmetric Nanochannel Diodes," J. Phys.: Conf. Ser. **906** (1), 012001 (2017).

2312. J. Serafini, S. B. Trivedi, D. Kochanowska, M. Witkowska-Baran, A. Mycielski, M. Guziewicz, R. Kruszka, W. Słysz, and R. Sobolewski, "Characterization of (Cd,Mn)Te and (Cd,Mg)Te Single Crystals in the THz Frequency Range Using Integrated Photoconductive and Electro-Optic Effects," J. Phys.: Conf. Ser. **906** (1), 012016 (2017).

2311. D. N. Polsin, D. E. Fratanduono, J. R. Rygg, A. Lazicki, R. F. Smith, J. H. Eggert, M. C. Gregor, B. H. Henderson, J. A. Delettrez, R. G. Kraus, P. M. Celliers, F. Coppari, D. C. Swift, C. A. McCoy, C. T. Seagle, J.-P. Davis, S. J. Burns, G. W. Collins, and T. R. Boehly, "Measurement of Body-Centered-Cubic Aluminum at 475 GPa," Phys. Rev. Lett. **119** (17), 175702 (2017).

2310. T. A. Germer, K. A. Sharma, T. G. Brown, and J. B. Oliver, "Polarized Optical Scattering by Inhomogeneities and Surface Roughness in an Anistropic Thin Film," J. Opt. Soc. Am. A **34** (11), 1974–1984 (2017).

2309. S. X. Hu, L. A. Collins, J. P. Colgan, V. N. Goncharov, and D. P. Kilcrease, "Optical Properties of Highly Compressed Polystyrene: An *Ab Initio* Study," Phys. Rev. B **96** (14), 144203 (2017).

2308. B. W Plansinis, W. R. Donaldson, and G. P. Agrawal, "Single-Pulse Interference Caused by Temporal Reflection at Moving Refractive-Index Boundaries," J. Opt. Soc. Am. B **34** (10), 2274–2280 (2017).

2307. T. Petersen, J. D. Zuegel, and J. Bromage, "Thermal Effects in an Ultrafast BiB3O6 Optical Parametric Oscillator at High Average Powers," Appl. Opt. **56** (24), 6923–6929 (2017).

2306. F. J. Marshall, R. E. Bahr, V. N. Goncharov, V. Yu. Glebov, B. Peng, S. P. Regan, T. C. Sangster, and C. Stoeckl, "A Framed, 16-Image Kirkpatrick–Baez X-Ray Microscope," Rev. Sci. Instrum. **88** (9), 093702 (2017).

2305. B. S. Rice, J. Ulreich, C. Fella, J. Crippen, P. Fitzsimmons, and A. Nikroo, "Permeation Fill-Tube Design for Inertial Confinement Fusion Target Capsules," High Power Laser Sci. Eng., **5**, e6 (2017).

2304. S. X. Hu, "Continuum Lowering and Fermi-Surface Rising in Strongly Coupled and Degenerate Plasmas," Phys. Rev. Lett. **119** (6), 065001 (2017).

2303. E. M. Campbell, V. N. Goncharov, T. C. Sangster, S. P. Regan, P. B. Radha, R. Betti, J. F. Myatt, D. H. Froula, M. J. Rosenberg, I. V. Igumenshchev, W. Seka, A. A. Solodov, A. V. Maximov, J. A. Marozas, T. J. B. Collins, D. Turnbull, F. J. Marshall, A. Shvydky, J. P. Knauer, R. L. McCrory, A. B. Sefkow, M. Hohenberger, P. A. Michel, T. Chapman, L. Masse, C. Goyon, S. Ross, J. W. Bates, M. Karasik, J. Oh, J. Weaver, A. J. Schmitt,

K. Obenschain, S. P. Obenschain, S. Reyes, and B. Van Wonterghem, "Laser-Direct-Drive Program: Promise, Challenge, and Path Forward," Matter Radiat. Extremes **2** (2), 37–54 (2017).

2302. R. B. Spielman, D. H. Froula, G. Brent, E. M. Campbell, D. B. Reisman, M. E. Savage, M. J. Shoup III, W. A. Stygar, and M. L. Wisher, "Conceptual Design of a 15-TW Pulsed-Power Accelerator for High-Energy-Density–Physics Experiments," Matter Radiat. Extremes **2** (4), 204–223 (2017).

2301. J. Serafini, A. Hossain, R. B. James, M. Guziewicz, R. Kruszka, W. Słysz, D. Kochanowska, J. Z. Domagala, A. Mycielski, and R. Sobolewski, "Photoconductive and Electro-Optic Effects in (Cd,Mg)Te Single Crystals Measured in an Experiment-on-Chip Configuration," Appl. Phys. Lett. **111** (1), 011108 (2017).

2300. C. R. Stillman, P. M. Nilson, S. T. Ivancic, I. E. Golovkin, C. Mileham, I. A. Begishev, and D. H. Froula, "Picosecond Time-Resolved Measurements of Dense Plasma Line Shifts," Phys. Rev. E **95** (6), 063204 (2017).

2299. J. B. Oliver, "Impact of a Counter-Rotating Planetary Rotation System on Thin-Film Thickness and Uniformity," Appl. Opt. **56** (18), 5121–5124 (2017).

2298. T. Petersen, J. D. Zuegel, and J. Bromage, "High-Average-Power, 2-μm Femtosecond Optical Parametric Oscillator Synchronously Pumped by a Thin-Disk, Mode-Locked Laser," Opt. Express **25** (8), 8840–8844 (2017).

2297. S. G. Demos, C. W. Carr, and D. A. Cross, "Mechanisms of Surface Contamination in Fused Silica by Means of Laser-Induced Electrostatic Effects," Opt. Lett. **42** (13), 2643–2646 (2017).

2296. D. H. Edgell, R. K. Follett, I. V. Igumenshchev, J. F. Myatt, J. G. Shaw, and D. H. Froula, "Mitigation of Cross-Beam Energy Transfer in Symmetric Implosions on OMEGA Using Wavelength Detuning," Phys. Plasmas **24** (6), 062706 (2017).

2295. J. R. Davies, D. H. Barnak, R. Betti, E. M. Campbell, P.-Y. Chang, A. B. Sefkow, K. J. Peterson, D. B. Sinars, and M. R. Weis, "Laser-Driven Magnetized Liner Inertial Fusion," Phys. Plasmas **24** (6), 062701 (2017).

2294. Y. H. Ding and S. X. Hu, "First-Principles Equation-of-State Table of Beryllium Based on Density-Functional Theory Calculations," Phys. Plasmas **24** (6), 062702 (2017).

2293. D. T. Michel, S. X. Hu, A. K. Davis, V. Yu. Glebov, V. N. Goncharov, I. V. Igumenshchev, P. B. Radha, C. Stoeckl, and D. H. Froula, "Measurement of the Shell Decompression in Direct-Drive Inertial-Confinement-Fusion Implosions," Phys. Rev. E, **95** (5), 051202(R) (2017).

2292. J. F. Myatt, R. K. Follett, J. G. Shaw, D. H. Edgell, D. H. Froula, I. V. Igumenshchev, and V. N. Goncharov, "A Wave-Based Model for Cross-Beam Energy Transfer in Direct-Drive Inertial Confinement Fusion," Phys. Plasmas **24** (5), 056308 (2017).

2291. K. Mehrotra, B. N. Taylor, A. A. Kozlov, S. Papernov, and J. C. Lambropoulos, "Nano-Indentation and Laser-Induced Damage Testing in Optical Multilayer-Dielectric Gratings," Appl. Opt. **56** (9), 2494 (2017).

2290. D. H. Barnak, J. R. Davies, R. Betti, M. J. Bonino, E. M. Campbell, V. Yu. Glebov, D. R. Harding, J. P. Knauer, S. P. Regan, A. B. Sefkow, A. J. Harvey-Thompson, K. J. Peterson, D. B. Sinars, S. A. Slutz, M. R. Weis, and P.-Y. Chang, "Laser-Driven Magnetized Liner Inertial Fusion on OMEGA," Phys. Plasmas **24** (5), 056310 (2017) (invited).

2289. M. C. Gregor, D. E. Fratanduono, C. A. McCoy, D. N. Polsin, A. Sorce, J. R. Rygg, G. W. Collins, T. Braun, P. M. Celliers, J. H. Eggert, D. D. Meyerhofer, and T. R. Boehly, "Hugoniot and Release Measurements in Diamond Shocked up to 26 Mbar," Phys. Rev. B **95** (14), 144114 (2017).

2288. S. X. Hu, R. Gao, Y. Ding, L. A. Collins, and J. D. Kress, "First-Principles Equation-of-State Table of Silicon and Its Effects on High-Energy-Density Plasma Simulations," Phys. Rev. E **95** (4), 043210 (2017).

2287. R. Epstein, C. Stoeckl, V. N. Goncharov, P. W. McKenty, F. J. Marshall, S. P. Regan, R. Betti, W. Bittle, D. R. Harding, S. X. Hu, I. V. Igumenshchev, D. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, C. Mileham, S. F. B. Morse, P. B. Radha, B. Rice, M. J. Shoup III, W. T. Shmayda, C. Sorce, J. Ulreich, and M. D. Wittman, "Simulation and Analysis of Time-Gated Monochromatic Radiographs of Cryogenic Implosions on OMEGA," High Energy Density Phys. **23**, 167–177 (2017).

2286. C. Fagan, M. Sharpe, W. T. Shmayda, and W. U. Schröder, "The Impact of Acid Treatments and Electropolishing Stainless-Steel Surfaces on Tritium Inventories," Fusion Sci. Technol. **71** (3), 275–280 (2017).

2285. J. Li, S. X. Hu, and C. Ren, "Effects of Laser-Plasma Instabilities on Hydro Evolution in an OMEGA-EP Long-Scale-Length Experiment," Phys. Plasmas **24** (2), 022706 (2017).

2284. I. V. Igumenshchev, D. T. Michel, R. C. Shah, E. M. Campbell, R. Epstein, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, F. J. Marshall, R. L. McCrory, S. P. Regan, T. C. Sangster, C. Stoeckl, A. J. Schmitt, and S. Obenschain, "Three-Dimensional Hydrodynamic Simulations of OMEGA Implosions," Phys. Plasmas **24** (5), 056307 (2017).

2283. C. Dorrer, W. A. Bittle, R. Cuffney, M. Spilatro, E. M. Hill, T. Z. Kosc, J. H. Kelly, and J. D. Zuegel, "Characterization and Optimization of an Eight-Channel Time-Multiplexed Pulse Shaping System," J. Lightwave Technol. **35** (2), 173–185 (2017).

2282. B. Chock, D. Harding, and T. Jones, "Dispensing Surfactant-Containing Water Droplets Using Electrowetting," in the *2016 AIChE Meeting Proceedings* (American Institute of Chemical Engineers, New York, 2016), Paper 560d/461784.

2281. C. Stoeckl, R. Epstein, R. Betti, W. Bittle, J. A. Delettrez, C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, D. W. Jacobs-Perkins, R. T. Janezic, J. H. Kelly, T. Z. Kosc, R. L. McCrory, D. T. Michel, C. Mileham, P. W.

McKenty, F. J. Marshall, S. F. B. Morse, S. P. Regan, P. B. Radha, B. Rice, T. C. Sangster, M. J. Shoup III, W. T. Shmayda, C. Sorce, W. Theobald, J. Ulreich, M. D. Wittman, D. D. Meyerhofer, J. A. Frenje, M. Gatu Johnson, and R. D. Petrasso, "Monochromatic Backlighting of Direct-Drive Cryogenic DT Implosions on OMEGA," Phys. Plasmas **24** (5), 056304 (2017).

2280. C. Dorrer, and J. Hassett, "Model-Based Optimization of Near-Field Binary-Pixelated Beam Shapers," Appl. Opt. **56** (4), 806–815 (2017).

2279. C. J. Forrest, P. B. Radha, J. P. Knauer, V. Yu. Glebov, V. N. Goncharov, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. T. Shmayda, C. Stoeckl, and M. Gatu Johnson, "First Measurements of Deuterium-Tritium and Deuterium-Deuterium Fusion Reaction Yields in Ignition-Scalable Direct-Drive Implosions," Phys. Rev. Lett. **118** (9), 095002 (2017).

2278. R. Epstein, S. P. Regan, B. A. Hammel, L. J. Suter, H. A. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, G. W. Collins, S. N. Dixit, T. Döppner, M. J. Edwards, D. R. Farley, K. B. Fournier, S. Glenn, S. H. Glenzer, I. E. Golovkin, A. Hamza, D. G. Hicks, N. Izumi, O. S. Jones, M. H. Key, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. Mackinnon, R. C. Mancini, R. L. McCrory, D. D. Meyerhofer, N. B. Meezan, A. Nikroo, H.-S. Park, P. K. Patel, J. E. Ralph, B. A. Remington, T. C. Sangster, V. A. Smalyuk, P. T. Springer, R. P. J. Town, and J. L. Tucker, "Applications and Results of X-Ray Spectroscopy in Implosion Experiments on the National Ignition Facility, AIP Conf. Proc. **1811**, 190004 (2017) (invited).

2277. A. A. Kozlov, S. Papernov, J. B. Oliver, A. Rigatti, B. Taylor, B. Charles, and C. Smith, "Study of the Picosecond Laser Damage in HfO_2/SiO_2–Based Thin-Film Coatings in Vacuum," Proc. SPIE **10014**, 100141Y (2016).

2276. J. B. Oliver, "Impact of Non-Integer Planetary Revolutions on the Distribution of Evaporated Optical Coatings," Appl. Opt. **56** (5), 1460–1463 (2017).

2275. D. Turnbull, C. Goyon, G. E. Kemp, B. B. Pollock, D. Mariscal, L. Divol, J. S. Ross, S. Patankar, J. D. Moody, and P. Michel, "Refractive Index Seen by a Probe Beam Interacting with a Laser-Plasma System," Phys. Rev. Lett. **118** (1), 015001 (2017).

2274. J. B. Oliver, "Impact of Deposition-Rate Fluctuations on Thin-Film Thickness and Uniformity," Opt. Lett. **41** (22), 5182–5285 (2016).

2273. S. G. Demos and R. A. Negres, "Morphology of Ejected Particles and Impact Sites on Intercepting Substrates Following Exit-Surface Laser Damage with Nanosecond Pulses in Silica," Opt. Eng. **56** (1), 011016 (2016).

2272. B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "Spectral Splitting of Optical Pulses Inside a Dispersive Medium at a Temporal Boundary," IEEE J. Quantum Electron. **52** (12), 6100708 (2016).

2271. M. C. Gregor, R. Boni, A. Sorce, J. Kendrick, C. A. McCoy, D. N. Polsin, T. R. Boehly, P. M. Celliers, G. W. Collins, D. E. Fratanduono, J. H. Eggert, and M. Millot, "Absolute

Calibration of the OMEGA Streaked Optical Pyrometer for Temperature Measurements of Compressed Materials," Rev. Sci. Instrum. **87** (11), 114903 (2016).

2270. M. Anthamatten, J. J. Ou, J. A. Weinfeld, S. H. Chen, "Enthalpy Versus Entropy: What Drives Hard-Particle Ordering in Condensed Phases?" Chem. Phys. Lett. **660**, 18–21 (2016).

2269. A. A. Solodov, B. Yaakobi, D. H. Edgell, R. K. Follett, J. F. Myatt, C. Sorce, and D. H. Froula, "Measurements of Hot-Electron Temperature in Laser-Irradiated Plasmas," Phys. Plasmas **23** (10), 102707 (2016).

2268. J. B. Oliver, "Analysis of a Planetary-Rotation System for Evaporated Optical Coatings," Appl. Opt. **55** (30), 8550–8555 (2016).

2267. V. N. Goncharov, S. P. Regan, E. M. Campbell, T. C. Sangster, P. B. Radha, J. F. Myatt, D. H. Froula, R. Betti, T. R. Boehly, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. T. Michel, W. Seka, A. Shvydky, C. Stoeckl, W. Theobald, and M. Gatu-Johnson, "National Direct-Drive Program on OMEGA and the National Ignition Facility," Plasma Phys. Control. Fusion **59** (1), 014008 (2017).

2266. S. X. Hu, D. T. Michel, A. K. Davis, R. Betti, P. B. Radha, E. M. Campbell, D. H. Froula, and C. Stoeckl, "Understanding the Effects of Laser Imprint on Plastic-Target Implosions on OMEGA," Phys. Plasmas **23** (10), 102701 (2016).

2265. H. Wen, A. V. Maximov, R. W. Short, J. F. Myatt, R. Yan, and C. Ren, "Two-Plasmon Decay Instability in Inhomogeneous Plasmas at Oblique Laser Incidence," Phys. Plasmas **23** (9), 092713 (2016).

2264. M. Hohenberger, A. Shvydky, J. A. Marozas, G. Fiksel, M. J. Bonino, D. Canning, T. J. B. Collins, C. Dorrer, T. J. Kessler, B. E. Kruschwitz, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, and J. D. Zuegel, "Optical Smoothing of Laser Imprinting in Planar-Target Experiments on OMEGA EP Using Multi-FM 1-D Smoothing by Spectral Dispersion," Phys. Plasmas **23** (9), 092702 (2016).

2263. P. X. Belancourt, W. Theobald, P. A. Keiter, T. J. B. Collins, M. J. Bonino, P. M. Kozlowski, S. P. Regan, and R. P. Drake, "Demonstration of Imaging X-Ray Thomson Scattering on OMEGA EP," Rev. Sci. Instrum. **87** (11), 11E550 (2016).

2262. S. Salzman, H. J. Romanofsky, G. West, K. L. Marshall, S. D. Jacobs, and J. C. Lambropoulos, "Acidic Magnetorheological Finishing of Infrared Polycrystalline Materials," Appl. Opt. **55** (30), 8448–8456 (2016).

2261. S. X. Hu, B. Militzer, L. A. Collins, K. P. Driver, and J. D. Kress, "First-Principles Prediction of the Softening of the Silicon Shock Hugoniot Curve," Phys. Rev. B, **94** (9), 094109 (2016).

2260. J. Katz, R. Boni, R. Rivlis, C. Muir, and D. H. Froula, "A Pulse-Front-Tilt–Compensated Streaked Optical Spectrometer with High Throughput and Picosecond Time Resolution," Rev. Sci. Instrum. **87** (11), 11E535 (2016).

2259. S. T. Ivancic, C. R. Stillman, D. Nelson, I. A. Begishev, C. Mileham, P. M. Nilson, and D. H. Froula, "Design of an Extreme Ultraviolet Spectrometer Suite to Characterize Rapidly Heated Solid Matter," Rev. Sci. Instrum. **87** (11), 11E538 (2016).

2258. A. K. Davis, D. T. Michel, R. S. Craxton, R. Epstein, M. Hohenberger, T. Mo, and D. H. Froula, "X-Ray Self-Emission Imaging Used to Diagnose 3-D Nonuniformities in Direct-Drive ICF Implosions," Rev. Sci. Instrum. **87** (11), 11E340 (2016).

2257. W. R. Donaldson, J. Katz, T. Z. Kosc, J. H. Kelly, E. M. Hill, and R. E. Bahr, "Enhancements to the Timing of the OMEGA Laser System to Improve Illumination Uniformity," Proc. SPIE **9966**, 996607 (2016).

2256. W. T. Shmayda, M. D. Wittman, R. F. Earley, J. L. Reid, and N. P. Redden, "The Laboratory for Laser Energetics' Hydrogen Isotope Separation System," Fusion Eng. Des. **109–111**, 128–134 (2016) (invited).

2255. P. M. Nilson, F. Ehrne, C. Mileham, D. Mastrosimone, R. K. Jungquist, C. Taylor, C. R. Stillman, S. T. Ivancic, R. Boni, J. Hassett, D. J. Lonobile, R. W. Kidder, M. J. Shoup III, A. A. Solodov, C. Stoeckl, W. Theobald, D. H. Froula, K. W. Hill, L. Gao, M. Bitter, P. Efthimion, and D. D. Meyerhofer, "A High-Resolving-Power X-Ray Spectrometer for the OMEGA EP Laser," Rev. Sci. Instrum. **87** (11), 11D504 (2016) (invited).

2254. C. Stoeckl, W. Theobald, S. P. Regan, and M. H. Romanofsky, "Calibration of a Time-Resolved Hard-X-Ray Detector Using Radioactive Sources," Rev. Sci. Instrum. **87** (11), 11E323 (2016).

2253. C. R. Stillman, P. M. Nilson, S. T. Ivancic, C. Mileham, I. A. Begishev, R. K. Junquist, D. J. Nelson, and D. H. Froula, "A Streaked X-Ray Spectroscopy Platform for Rapidly Heated, Near-Solid Density Plasmas," Rev. Sci. Instrum. **87** (11), 11E312 (2016).

2252. C. J. Forrest, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, M. H. Romanofsky, T. C. Sangster, M. J. Shoup III, and C. Stoeckl, "High-Dynamic-Range Neutron Time-of-Flight Detector Used to Infer the $D(t,n)^4He$ and $D(d,n)^3He$ Reaction Yield and Ion Temperature on OMEGA," Rev. Sci. Instrum. **87** (11), 11D814 (2016).

2251. R. K. Follett, J. A. Delettrez, D. H. Edgell, R. J. Henchen, J. Katz, J. F. Myatt, and D. H. Froula, "Plasma Characterization Using Ultraviolet Thomson Scattering from Ion-Acoustic and Electron Plasma Waves," Rev. Sci. Instrum. **87** (11), 11E401 (2016) (invited).

2250. A. Bose, K. M. Woo, R. Betti, E. M. Campbell, D. Mangino, A. R. Christopherson, R. L. McCrory, R. Nora, S. P. Regan, V. N. Goncharov, T. C. Sangster, C. J. Forrest, J. Frenje, M. Gatu Johnson, V. Yu. Glebov, J. P. Knauer, F. J. Marshall, C. Stoeckl, and W. Theobald, "Core Conditions for Alpha Heating Attained in Direct-Drive Inertial Confinement Fusion," Phys. Rev. E **94** (1), 011201(R) (2016).

2249. J. B. Oliver, C. Smith, J. Spaulding, A. L. Rigatti, B. Charles, S. Papernov, B. Taylor, J. Foster, C. W. Carr, R. Luthi, B. Hollingsworth, and D. Cross, "Glancing-Angle–

Deposited Magnesium Oxide Films for High-Fluence Applications," Opt. Mater. Express **6** (7), 2291–2303 (2016).

2248. S. P. Regan, V. N. Goncharov, I. V. Igumenshchev, T. C. Sangster, R. Betti, A. Bose, T. R. Boehly, M. J. Bonino, E. M. Campbell, D. Cao, T. J. B. Collins, R. S. Craxton, A. K. Davis, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu Johnson, V. Yu. Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, D. Jacobs-Perkins, R. Janezic, M. Karasik, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, S. P. Obenschain, R. D. Petrasso, P. B. Radha, B. Rice, M. J. Rosenberg, A. J. Schmitt, M. J. Schmitt, W. Seka, W. T. Shmayda, M. J. Shoup III, A. Shvydky, S. Skupsky, A. A. Solodov, C. Stoeckl, W. Theobald, J. Ulreich, M. D. Wittman, K. M. Woo, B. Yaakobi, and J. D. Zuegel, "Demonstration of Fuel Hot-Spot Pressure in Excess of 50 Gbar for Direct-Drive, Layered Deuterium-Tritium Implosions on OMEGA," Phys. Rev. Lett. **117** (2), 025001 (2016).

2247. S. Papernov, A. A. Kozlov, J. B. Oliver, C. Smith, L. Jensen, S. Günster, H. Mädebach, and D. Ristau, "Role of HfO_2/SiO_2 Thin-Film Interfaces in Near-Ultraviolet Absorption and Pulsed Laser Damage," Opt. Eng. **56** (1), 011004 (2017).

2246. D. H. Crandall, "The Quest for Laboratory Inertial Fusion Burn in the United States," J. Phys.: Conf. Ser. **717**, 012001 (2016).

2245. J. F. Myatt, J. Shaw, V. N. Goncharov, J. Zhang, A. V. Maximov, R. W. Short, R. K. Follett, W. Seka, D. H. Edgell, and D. H. Froula, "Laser–Plasma Interaction in Direct-Drive Inertial Confinement Fusion," J. Phys.: Conf. Ser. **717**, 012040 (2016).

2244. P. B. Radha, M. Hohenberger, F. J. Marshall, D. T. Michel, J. Bates, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, S. N. Dixit, D. H. Edgell, J. A. Frenje, D. H. Froula, V. N. Goncharov, S. X. Hu, M. Karasik, J. P. Knauer, S. LePape, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. F. Myatt, S. Obenschein, R. D. Petrasso, S. P. Regan, M. J. Rosenberg, T. C. Sangster, W. Seka, A. Shvydky, H. Sio, S. Skupsky, and A. Zylstra, "Polar-Direct-Drive Experiments at the National Ignition Facility," J. Phys.: Conf. Ser. **717**, 012009 (2016).

2243. A. A. Solodov, M. J. Rosenberg, J. F. Myatt, R. Epstein, S. P. Regan, W. Seka, J. Shaw, M. Hohenberger, J. W. Bates, J. D. Moody, J. E. Ralph, D. P. Turnbull, and M. A. Barrios, "Hydrodynamic Simulations of Long-Scale-Length Plasmas for Two-Plasmon–Decay Planar-Target Experiments on the NIF," J. Phys.: Conf. Ser. **717**, 012053 (2016).

2242. J. A. Marozas, T. J. B. Collins, J. D. Zuegel, P. W. McKenty, D. Cao, S. Fochs, and P. B. Radha, "Continuous Distributed Phase-Plate Advances for High-Energy Laser Systems," J. Phys.: Conf. Ser. **717**, 012107 (2016).

2241. V. N. Goncharov, S. P. Regan, T. C. Sangster, R. Betti, T. R. Boehly, E. M. Campbell, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. T. Michel, J. F. Myatt, P. B. Radha, W. Seka, A. Shvydky, C. Stoeckl, W. Theobald, B. Yaakobi, and

M. Gatu-Johnson, "Demonstrating Ignition Hydrodynamic Equivalence in Direct-Drive Cryogenic Implosions on OMEGA," J. Phys.: Conf. Ser. **717**, 012008 (2016).

2240. T. J. B. Collins, J. A. Marozas, S. Skupsky, D. Cao, P. W. McKenty, J. A. Delettrez, and G. Moses, "Design Options for Polar-Direct-Drive Targets from Alpha Heating to Ignition," J. Phys.: Conf. Ser. **717**, 012012 (2016).

2239. R. Betti, A. R. Christopherson, A. Bose, and K. M. Woo, "Alpha Heating and Burning Plasmas in Inertial Confinement Fusion," J. Phys.: Conf. Ser. **717**, 012007 (2016).

2238. T. Z. Kosc, J. H. Kelly, E. M. Hill, and L. J. Waxer, "Design and Operation of the Multiple-Pulse Driver Line on the OMEGA Laser," J. Phys.: Conf. Ser. **717**, 012104 (2016).

2237. S. X. Hu, L. A. Collins, V. N. Goncharov, J. D. Kress, T. R. Boehly, R. Epstein, R. L. McCrory, and S. Skupsky, "First-Principles Studies on the Equation of State, Thermal Conductivity, and Opacity of Deuterium–Tritium (DT) and Polystyrene (CH) for Inertial Confinement Fusion Applications," J. Phys.: Conf. Ser. **717**, 012064 (2016).

2236. B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "Temporal Waveguides for Optical Pulses," J. Opt. Soc. Am. B **33** (6), 1112–1119 (2016).

2235. C. Stoeckl, R. Boni, F. Ehrne, C. J. Forrest, V. Yu. Glebov, J. Katz, D. J. Lonobile, J. Magoon, S. P. Regan, M. J. Shoup III, A. Sorce, C. Sorce, T. C. Sangster, and D. Weiner, "Neutron Temporal Diagnostic for High-Yield Deuterium–Tritium Cryogenic Implosions on OMEGA," Rev. Sci. Instrum. **87** (5), 053501 (2016).

2234. C. A. McCoy, M. C. Gregor, D. N. Polsin, D. E. Fratanduono, P. M. Celliers, T. R. Boehly, and D. D. Meyerhofer, "Shock-Wave Equation-of-State Measurements in Fused Silica up to 1600 GPa," J. Appl. Phys. **119** (21), 215901 (2016).

2233. M. Sharpe, W. T. Shmayda, and W. U. Schröder, "Tritium Migration to the Surfaces of Type 316 Stainless Steel; Aluminum 6061; and Oxygen-Free, High-Conductivity Copper," Fusion Sci. Technol. **70** (1), 97–111 (2016).

2232. R. K. Follett, J. A. Delettrez, D. H. Edgell, V. N. Goncharov, R. J. Henchen, J. Katz, D. T. Michel, J. F. Myatt, J. Shaw, A. A. Solodov, C. Stoeckl, B. Yaakobi, and D. H. Froula, "Two-Plasmon Decay Mitigation in Direct-Drive Inertial-Confinement-Fusion Experiments Using Multilayer Targets," Phys. Rev. Lett. **116** (15), 155002 (2016).

2231. P. B. Radha, M. Hohenberger, D. H. Edgell, J. A. Marozas, F. J. Marshall, D. T. Michel, M. J. Rosenberg, W. Seka, A. Shvydky, T. R. Boehly, T. J. B. Collins, E. M. Campbell, R. S. Craxton, J. A. Delettrez, S. N. Dixit, J. A. Frenje, D. H. Froula, V. N. Goncharov, S. X. Hu, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. Moody, J. F. Myatt, R. D. Petrasso, S. P. Regan, T. C. Sangster, H. Sio, S. Skupsky, and A. Zylstra, "Direct Drive: Simulations and Results from the National Ignition Facility," Phys. Plasmas **23** (5), 056305 (2016) (invited).

2230. P. B. Radha, V. N. Goncharov, M. Hohenberger, T. C. Sangster, R. Betti, R. S. Craxton, D. H. Edgell, R. Epstein, D. H. Froula, J. A. Marozas, F. J. Marshall, R. L. McCrory,

P. W. McKenty, D. D. Meyerhofer, D. T. Michel, S. X. Hu, W. Seka, A. Shvydky, S. Skupsky, J. A. Frenje, M. Gatu-Johnson, R. D. Petrasso, T. Ma, S. Le Pape, and A. J. Mackinnon, "Direct-Drive Implosion Physics: Results from OMEGA and the National Ignition Facility," J. Phys.: Conf. Ser. **688** (1), 012006 (2016).

2229. I. V. Igumenshchev, V. N. Goncharov, F. J. Marshall, J. P. Knauer, E. M. Campbell, C. J. Forrest, D. H. Froula, V. Yu. Glebov, R. L. McCrory, S. P. Regan, T. C. Sangster, S. Skupsky, and C. Stoeckl, "Three-Dimensional Modeling of Direct-Drive Cryogenic Implosions on OMEGA," Phys. Plasmas **23** (5), 052702 (2016).

2228. S. X. Hu, L. A. Collins, V. N. Goncharov, J. D. Kress, R. L. McCrory, and S. Skupsky, "First-Principles Investigations on Ionization and Thermal Conductivity of Polystyrene for Inertial Confinement Fusion Applications," Phys. Plasmas **23** (4), 042704 (2016).

2227. W. R. Donaldson, J. Katz, R. Huff, E. M. Hill, J. H. Kelly, J. Kwaitkowski, R. B. Brannon, and R. Boni, "A Picosecond Beam-Timing System for the OMEGA Laser," Rev. Sci. Instrum. **87** (5), 053511 (2016).

2226. C. Dorrer, A. Consentino, and D. Irwin, "Direct Optical Measurement of the On-Shot Incoherent Focal Spot and Intensity Contrast on the OMEGA EP Laser," Appl. Phys. B **122** (6), 156 (2016).

2225. A. K. Davis, D. Cao, D. T. Michel, M. Hohenberger, D. H. Edgell, R. Epstein, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, J. A. Marozas, A. V. Maximov, J. F. Myatt, P. B. Radha, S. P. Regan, T. C. Sangster, and D. H. Froula, "Isolating and Quantifying Cross-Beam Energy Transfer in Direct-Drive Implosions on OMEGA and the National Ignition Facility," Phys. Plasmas **23** (5), 056306 (2016) (invited).

2224. R. Betti and O. A. Hurricane, "Inertial-Confinement Fusion with Lasers," Nat. Phys. **12** (5), 435–448 (2016).

2223. C. Dorrer, L. J. Waxer, A. Kalb, E. M. Hill, and J. Bromage, "Single-Shot, High-Resolution, Fiber-Based Phase-Diversity Photodetection of Optical Pulses," Proc. SPIE **9732**, 97320P (2016).

2222. J. Serafini, Y. Akbas, L. Crandall, R. Bellman, C. K. Williams, and R. Sobolewski, "Time-Resolved, Nonequilibrium Carrier Dynamics in Si-on-Glass Thin Films for Photovoltaic Cells," Semicond. Sci. Technol. **31** (3), 045006 (2016).

2221. W. Shang, J. Yang, W. Zhang, Z. Li, B. Deng, Y. Dong, T. Zhu, C. Huang, X. Zhan, Y. Mei, L. Guo, R. Yu, S. Li, S. Jiang, S. Liu, F. Wang, Y. Ding, B. Zhang, and R. Betti, "Experimental Demonstration of Laser to X-Ray Conversion Enhancements with Low Density Gold Targets," Appl. Phys. Lett. **108** (6), 064102 (2016).

2220. S. Salzman, H. J. Romanofsky, L. J. Giannechini, S. D. Jacobs, and J. C. Lambropoulos, "Magnetorheological Finishing of Chemical-Vapor Deposited Zinc Sulfide via Chemically and Mechanically Modified Fluids," Appl. Opt. **55** (6), 1481–1489 (2016).

2219. S.-W. Bahk, C. Dorrer, R. G. Roides, and J. Bromage, "Chromatic-Aberration Diagnostic Based on a Spectrally Resolved Lateral-Shearing Interferometer," Appl. Opt. **55** (9), 2413–2417 (2016).

2218. F. J. Marshall, P. B. Radha, M. J. Bonino, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, C. Stoeckl, J. A. Frenje, M. Gatu Johnson, F. H. Séguin, H. Sio, A. Zylstra, and E. Giraldez, "Polar-Direct-Drive Experiments with Contoured-Shell Targets on OMEGA," Phys. Plasmas **23** (1), 012711 (2016).

2217. R. Yan, R. Betti, J. Sanz, H. Aluie, B. Liu, and A. Frank, "Three-Dimensional Single-Mode Nonlinear Ablative Rayleigh–Taylor Instability," Phys. Plasmas **23** (2), 022701 (2016).

2216. S. Papernov, A. A. Kozlov, J. B. Oliver, C. Smith, L. Jensen, D. Ristau, S. Günster, and H. Mädebach, "The Role of Film Interfaces in Near-Ultraviolet Absorption and Pulsed-Laser Damage in Ion-Beam–Sputtered Coatings Based on HfO_2/SiO_2 Thin-Film Pairs," Proc. SPIE **9632**, 96320B (2015).

2215. K. L. Marshall, E. R. Sekera, and K. Xiao, "Computational Chemistry Modeling and Design of Photoswitchable Alignment Materials for Optically Addressable Liquid Crystal Devices," Proc. SPIE **9565**, 95650T (2015) (invited).

2214. S. Salzman, L. J. Giannechini, H. J. Romanofsky, N. Golini, B. Taylor, S. D. Jacobs, and J. C. Lambropoulos, "Advanced Zirconia-Coated Carbonyl-Iron Particles for Acidic Magnetorheological Finishing of Chemical-Vapor–Deposited ZnS and Other IR Materials," Proc. SPIE **9633**, 963307 (2015).

2213. J. Serafini, Y. Akbas, L. Crandall, R. Bellman, C. Kosik Williams, and R. Sobolewski, "Nonequilibrium Carrier Dynamics in Ultrathin Si-on-Glass Films," J. Phys.: Conf. Ser. **647**, 012032 (2015).

2212. Y. Akbas, A. Stern, L. Q. Zhang, Y. Alimi, A. M. Song, I. Iñiguez-de-la-Torre, J. Mateos, T. González, G. W. Wicks, and R. Sobolewski, "Ultrahigh Responsivity of Optically Active, Semiconducting Asymmetric Nano-Channel Diodes," J. Phys.: Conf. Ser. **647**, 012013 (2015).

2211. J. R. Davies, R. Betti, P.-Y. Chang, and G. Fiksel, "The Importance of Electrothermal Terms in Ohm's Law for Magnetized Spherical Implosions," Phys. Plasmas **22** (11), 112703 (2015).

2210. R. S. Craxton, K. S. Anderson, T. R. Boehly, V. N. Goncharov, D. R. Harding, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. F. Myatt, A. J. Schmitt, J. D. Sethian, R. W. Short, S. Skupsky, W. Theobald, W. L. Kruer, K. Tanaka, R. Betti, T. J. B. Collins, J. A. Delettrez, S. X. Hu, J. A. Marozas, A. V. Maximov, D. T. Michel, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, A. A. Solodov, J. M. Soures, C. Stoeckl, and J. D. Zuegel, "Direct-Drive Inertial Confinement Fusion: A Review," Phys. Plasmas **22** (11), 110501 (2015).

2209. C. Dorrer, L. J. Waxer, A. Kalb, E. M. Hill, and J. Bromage, "Single-Shot High-Resolution Characterization of Optical Pulses by Temporal Phase Diversity," Opt. Express **23**, 33,116–33,129 (2015).

2208. N. D. Viza, M. H. Romanofsky, M. J. Moynihan, and D. R. Harding, "The Effects of a Surfactant on the Operation of T-Junctions for Mass-Producing Foam Targets," Fusion Sci. Technol. **70** (2), 219–225.

2207. B. P. Chock, T. B. Jones, and D. R. Harding, "Effect of a Surfactant on the Electric-Field Assembly of Oil-Water Emulsions for Making Foam Targets," Fusion Sci. Technol. **70** (2), 206–218.

2206. D. R. Harding, D. Whitaker, and C. Fella, "Growth of a Solid D-T Crystal from the Liquid Inside Inertial Confinement Fusion Targets," Fusion Sci. Technol. **70** (2), 173–183.

2205. S. X. Hu, L. A. Collins, V. N. Goncharov, J. D. Kress, R. L. McCrory, and S. Skupsky, "First-Principles Equation of State of Polystyrene and its Effect on Inertial Confinement Fusion Implosions," Phys. Rev. E **92** (4), 043104 (2015).

2204. B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "What is the Temporal Analog of Reflection and Refraction of Optical Beams?" Phys. Rev. Lett. **115** (18), 183901 (2015).

2203. W. T. Shmayda, M. Sharpe, A. M. Boyce, R. Shea, B. Petroski, and W. U. Schröder, "Dependence of Tritium Release From Stainless Steel on Temperature and Water Vapor," Fusion Sci. Technol. **68** (4), 766–771 (2015).

2202. S. Salzman, H. J. Romanofsky, S. D. Jacobs, and J. C. Lambropoulos, "Surface–Texture Evolution of Different Chemical-Vapor-Deposited Zinc Sulfide Flats Polished with Various Magnetorheological Fluids," Prec. Eng. **43**, 257–261 (2016).

2201. P. M. Nilson, A. A. Solodov, J. R. Davies, W. Theobald, C. Mileham, C. Stoeckl, I. A. Begishev, J. D. Zuegel, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Time-Resolved K_α Spectroscopy Measurements of Hot-Electron Equilibration Dynamics in Thin-Foil Solid Targets: Collisional and Collective Effects," J. Phys. B: At. Mol. Opt. Phys. **48** (22), 224001 (2015).

2200. C. Dorrer, A. Consentino, D. Irwin, J. Qiao, and J. D. Zuegel, "OPCPA Front End and Contrast Optimization for the OMEGA EP Kilojoule, Picosecond Laser," J. Opt. **17**, 094007 (2015).

2199. J. Bromage, C. Dorrer, and J. D. Zuegel, "Temporal-Contrast Measurements of a White-Light-Seeded Noncollinear Optical Parametric Amplifier," J. Opt. **17**, 094006 (2015).

2198. D. T. Michel, A. K. Davis, W. Armstrong, R. Bahr, R. Epstein, V. N. Goncharov, M. Hohenberger, I. V. Igumenshchev, R. Jungquist, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, C. Sorce, and D. H. Froula, "Measurements of the Ablation-Front Trajectory and Low-Mode Nonuniformity in Direct-Drive Implosions Using X-Ray Self-Emission Shadowgraphy," High Power Laser Sci. Eng. **3**, e19 (2015).

2197. B. W. Plansinis, W. R. Donaldson, and G. P. Agrawal, "Spectral Changes Induced by a Phase Modulator Acting as a Time Lens," J. Opt. Soc. Am. B **32** (8), 1550–1554 (2015).

2196. U. Nasti, L. Parlato, M. Ejrnaes, R. Cristiano, T. Taino, H. Myoren, R. Sobolewski, and G. Pepe, "Thermal Fluctuations in Superconductor/Ferromagnet Nanostripes," Phys. Rev. B **92** (1), 014501 (2015).

2195. A. Bose, K. M. Woo, R. Nora, and R. Betti, "Hydrodynamic Scaling of the Deceleration-Phase Rayleigh–Taylor Instability," Phys. Plasmas **22** (7), 072702 (2015).

2194. R. Betti, A. R. Christopherson, B. K. Spears, R. Nora, A. Bose, J. Howard, K. M. Woo, M. J. Edwards, and J. Sanz, "Alpha Heating and Burning Plasmas in Inertial Confinement Fusion," Phys. Rev. Lett. **114** (25), 255003 (2015).

2193. T. Z. Kosc, J. H. Kelly, E. M. Hill, C. Dorrer, L. J. Waxer, and W. R. Donaldson, "The Multiple-Pulse Driver Line on the OMEGA Laser," Proc. SPIE **9345**, 93450H (2015).

2192. A. N. Tsypkin, S. E. Putilin, A. V. Okishev, and S. A. Kozlov, "Ultrafast Information Transfer Through Optical Fiber by Means of Quasidiscrete Spectral Supercontinuums," Opt. Eng. **54** (5), 056111 (2015).

2191. H. Wen, R. Yan, A. V. Maximov, and C. Ren, "Linear Regime of Two-Plasmon Decay and Stimulated Raman Scattering Instability Near the Quarter-Critical Density in Plasmas," Phys. Plasmas **22** (5), 052704 (2015).

2190. W. Theobald, R. Nora, W. Seka, M. Lafon, K. S. Anderson, M. Hohenberger, F. J. Marshall, D. T. Michel, A. A. Solodov, C. Stoeckl, D. H. Edgell, B. Yaakobi, A. Casner, C. Reverdin, X. Ribeyre, A. Shvydky, A. Vallet, J. Peebles, F. N. Beg, M. S. Wei, and R. Betti, "Spherical Strong-Shock Generation or Shock-Ignition Inertial Fusion," Phys. Plasmas **22** (5), 056310 (2015).

2189. P. M. Nilson, L. Gao, I. V. Igumenshchev, G. Fiksel, R. Yan, J. R. Davies, D. Martinez, V. A. Smalyuk, M. G. Haines, E. G. Blackman, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Magnetic-Field Generation by the Ablative Nonlinear Rayleigh–Taylor Instability," J. Plasma Phys. **81** (2), 365810201 (2015).

2188. S. Ivancic, D. Haberberger, H. Habara, T. Iwawaki, K. S. Anderson, R. S. Craxton, D. H. Froula, D. D. Meyerhofer, C. Stoeckl, K. A. Tanaka, and W. Theobald, "Channeling of Multikilojoule High-Intensity Laser Beams in an Inhomogeneous Plasma," Phys. Rev. E **91** (5), 051101(R) (2015).

2187. M. Hohenberger, P. B. Radha, J. F. Myatt, S. LePape, J. A. Marozas, F. J. Marshall, D. T. Michel, S. P. Regan, W. Seka, A. Shvydky, T. C. Sangster, J. W. Bates, R. Betti, T. R. Boehly, M. J. Bonino, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, G. Fiksel, P. Fitzsimmons, J. A. Frenje, D. H. Froula, V. N. Goncharov, D. R. Harding, D. H. Kalantar, M. Karasik, T. J. Kessler, J. D. Kilkenny, J. P. Knauer, C. Kurz, M. Lafon, K. N. LaFortune, B. J. MacGowan, A. J. Mackinnon, A. G. MacPhee, R. L. McCrory, P. W. McKenty, J. F. Meeker, D. D. Meyerhofer, S. R. Nagel, A. Nikroo, S. Obenschain, R. D. Petrasso, J. E. Ralph, H. G. Rinderknecht, M. J. Rosenberg, A. J. Schmitt, R. J. Wallace, J. Weaver, C. Widmayer, S. Skupsky, A. A.

Solodov, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, "Polar-Direct-Drive Experiments on the National Ignition Facility," Phys. Plasmas **22** (5), 056308 (2015).

2186. H. Habara, S. Ivancic, K. Anderson, D. Haberberger, T. Iwawaki, C. Stoeckl, K. A. Tanaka, Y. Uematsu, and W. Theobald, "Efficient Propagation of Ultra-Intense Laser Beam in Dense Plasma," Plasma Phys. Control. Fusion **57** (6), 064005 (2015).

2185. L. Gao, P. M. Nilson, I. V. Igumenshchev, M. G. Haines, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Precision Mapping of Laser-Driven Magnetic Fields and Their Evolution in High-Energy-Density Plasmas," Phys. Rev. Lett. **114** (21), 215003 (2015).

2184. S. X. Hu, V. N. Goncharov, T. R. Boehly, R. L. McCrory, S. Skupsky, L. A. Collins, J. D. Kress, and B. Militzer, "Impact of First-Principles Properties of Deuterium–Tritium on Inertial Confinement Fusion Target Designs," Phys. Plasmas **22** (5), 056304 (2015).

2183. R. K. Follett, D. H. Edgell, R. J. Henchen, S. X. Hu, J. Katz, D. T. Michel, J. F. Myatt, J. Shaw, and D. H. Froula, "Direct Observation of the Two-Plasmon-Decay Common Plasma Wave Using Ultraviolet Thomson Scattering," Phys. Rev. E **91** (3) 031104 (2015).

2182. D. T. Michel, A. K. Davis, V. N. Goncharov, T. C. Sangster, S. X. Hu, I. V. Igumenshchev, D. D. Meyerhofer, W. Seka, and D. H. Froula, "Measurements of the Conduction-Zone Length and Mass Ablation Rate in Cryogenic Direct-Drive Implosions on OMEGA," Phys. Rev. Lett. **114** (15), 155002 (2015).

2181. M. Lafon, R. Betti, K. S. Anderson, T. J. B. Collins, R. Epstein, P. W. McKenty, J. F. Myatt, A. Shvydky, and S. Skupsky, "Direct-Drive–Ignition Designs with Mid-*Z* Ablators," Phys. Plasmas **22** (3), 032703 (2015).

2180. F. Weilacher, P. B. Radha, T. J. B. Collins, and J. A. Marozas, "The Effect of Laser Spot Shapes on Polar-Direct-Drive Implosions on the National Ignition Facility," Phys. Plasmas **22** (3), 032701 (2015).

2179. G. Fiksel, A. Agliata, D. Barnak, G. Brent, P.-Y. Chang, L. Folnsbee, G. Gates, D. Hasset, D. Lonobile, J. Magoon, D. Mastrosimone, M. J. Shoup III, and R. Betti, "Note: Experimental Platform for Magnetized High-Energy-Density Plasma Studies at the Omega Laser Facility," Rev. Sci. Instrum. **86** (1), 016105 (2015).

2178. K. Mehrotra, J. B. Oliver, and J. C. Lambropoulos, "Nano-Indentation of Single-Layer Optical Oxide Thin Films Grown by Electron-Beam Deposition," Appl. Opt. **54** (9) 2435–2440 (2015).

2177. R. Nora, W. Theobald, R. Betti, F. J. Marshall, D. T. Michel, W. Seka, B. Yaakobi, M. Lafon, C. Stoeckl, J. Delettrez, A. A. Solodov, A. Casner, C. Reverdin, X. Ribeyre, A. Vallet, J. Peebles, F. N. Beg, and M. S. Wei, "Gigabar Spherical Shock Generation on the OMEGA Laser," Phys. Rev. Lett. **114** (4), 045001 (2015).

2176. R. Epstein, V. N. Goncharov, F. J. Marshall, R. Betti, R. Nora, A. R. Christopherson, I. E. Golovkin, and J. J. MacFarlane, "X-Ray Continuum as a Measure of Pressure and

Fuel–Shell Mix in Compressed Isobaric Hydrogen Implosion Cores," Phys. Plasmas **22** (2), 022707 (2015).

2175. S. Papernov, A. A. Kozlov, and J. B. Oliver, "Interface Absorption Versus Film Absorption in HfO_2/SiO_2 Thin-Film Pairs in the Near-Ultraviolet and the Relation to Pulsed-Laser Damage," Proc. SPIE **9237**, 92370Q (2014).

2174. S. Papernov, "Defect-Induced Damage," in *Laser-Induced Damage in Optical Materials*, edited by D. Ristau (CRC Press, Boca Raton, FL, 2014), Sec. I, Chap. 3, pp. 25–74.

2173. R. Arpaia, M. Ejrnaes, L. Parlato, F. Tafuri, R. Cristiano, D. Golubev, R. Sobolewski, T. Bauch, F. Lombardi, and G. P. Pepe, "High-Temperature Superconducting Nanowires for Photon Detection," Physica C **509**, 16–21 (2015).

2172. W. Theobald, A. A. Solodov, C. Stoeckl, K. S. Anderson, F. N. Beg, R. Epstein, G. Fiksel, E. M. Giraldez, V. Yu. Glebov, H. Habara, S. Ivancic, L. C. Jarrott, F. J. Marshall, G. McKiernan, H. S. McLean, C. Mileham, P. M. Nilson, P. K. Patel, F. Pérez, T. C. Sangster, J. J. Santos, H. Sawada, A. Shvydky, R. B. Stephens, and M. S. Wei, "Time-Resolved Compression of a Capsule with a Cone to High Density for Fast-Ignition Laser Fusion," Nat. Commun. **5**, 5785 (2014).

2171. D. T. Michel, R. S. Craxton, A. K. Davis, R. Epstein, V. Yu. Glebov, V. N. Goncharov, S. X. Hu, I. V. Igumenshchev, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, C. Stoeckl, and D. H. Froula, "Implosion Dynamics in Direct-Drive Experiments," Plasma Phys. Control. Fusion **57** (1), 014023 (2015) (invited).

2170. K. L. Marshall, O. Didovets, and D. Saulnier, "Contact-Angle Measurements as a Means of Probing the Surface Alignment Characteristics of Liquid Crystal Materials on Photoalignment Layers," Proc. SPIE **9182**, 91820J (2014) (invited).

2169. J. B. Oliver, T. J. Kessler, C. Smith, B. Taylor, V. Gruschow, J. Hettrick, and B. Charles, "Electron-Beam–Deposited Distributed Polarization Rotator for High-Power Laser Applications," Opt. Express **22** (20), 23883–23896 (2014).

2168. S. X. Hu, L. A. Collins, V. N. Goncharov, T. R. Boehly, R. Epstein, R. L. McCrory, and S. Skupsky, "First-Principles Opacity Table of Warm Dense Deuterium for Inertial-Confinement-Fusion Applications," Phys. Rev. E **90** (3), 033111 (2014).

2167. G. Fiksel, W. Fox, A. Bhattacharjee, D. H. Barnak, P.-Y. Chang, K. Germaschewski, S. X. Hu, and P. M. Nilson, "Magnetic Reconnection Between Colliding Magnetized Laser-Produced Plasma Plumes," Phys. Rev. Lett. **113** (10), 105003 (2014).

2166. A. Davies, D. Haberberger, R. Boni, S. Ivancic, R. Brown, and D. H. Froula, "Polarimetry Diagnostic on OMEGA EP Using a 10-ps, 263-nm Probe Beam," Rev. Sci. Instrum. **85** (11), 11E611 (2014).

2165. F. J. Marshall and P. B. Radha, "Masked-Backlighter Technique Used to Simultaneously Image X-Ray Absorption and X-Ray Emission from an Inertial Confinement Fusion Plasma," Rev. Sci. Instrum. **85** (11), 11E615 (2014).

2164. J. Zhang, J. F. Myatt, R. W. Short, A. V. Maximov, H. X. Vu, D. F. DuBois, and D. A. Russell, "Multiple Beam Two-Plasmon Decay: Linear Threshold to Nonlinear Saturation in Three Dimensions," Phys. Rev. Lett. **113** (10), 105001 (2014).

2163. H. P. H. Liddell, J. C. Lambropoulos, and S. D. Jacobs, "Thermomechanical Model to Assess Stresses Developed During Elevated-Temperature Cleaning of Coated Optics," Appl. Opt. **53** (26), 5865–5878 (2014).

2162. P. B. Radha, M. Hohenberger, F. J. Marshall, R. S. Craxton, D. H. Edgell, D. H. Froula, V. N. Goncharov, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, T. C. Sangster, W. Seka, and S. Skupsky, "Polar-Drive Implosions—Results from OMEGA and the National Ignition Facility," *Stockpile Stewardship Quarterly*, **4** (2), 10–12, NNSA Office of Research, Development, Test, and Evaluation, Washington, DC, DOE/NA-0023 (2014).

2161. R. Yan, J. Li, and C. Ren, "Intermittent Laser-Plasma Interactions and Hot Electron Generation in Shock Ignition," Phys. Plasmas **21** (6), 062705 (2014).

2160. B. Rice, J. Quinzi, L. Lund, J. Ulreich, and M. Shoup, "Measurement of Young's Modulus and Damping of Fibers at Cryogenic Temperatures," Cryogenics **63**, 43–48 (2014).

2159. S. Papernov, A. A. Kozlov, J. B. Oliver, T. J. Kessler, A. Shvydky, and B. Marozas, "Near-Ultraviolet Absorption Annealing in Hafnium Oxide Thin Films Subjected to Continuous-Wave Laser Radiation," Opt. Eng. **53** (12), 122504 (2014).

2158. C. Dorrer, R. G. Roides, J. Bromage, and J. D. Zuegel, "Self-Phase Modulation Compensation in a Regenerative Amplifier Using Cascaded Second-Order Nonlinearities," Opt. Lett. **39** (15), 4466–4469 (2014).

2157. C. Dorrer, "Analysis of Nonlinear Optical Propagation in a Longitudinal Deuterated Potassium Dihydrogen Phosphate Pockels Cell," J. Opt. Soc. Am. B **31** (8), 1891–1900 (2014).

2156. A. K. Davis, D. T. Michel, S. X. Hu, R. S. Craxton, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, T. C. Sangster, and D. H. Froula, "Mass-Ablation-Rate Measurements in Direct-Drive Cryogenic Implosions Using X-Ray Self-Emission Images," Rev. Sci. Instrum. **85** (11), 11D616 (2014).

2155. S.-W. Bahk, I. A. Begishev, J. D. Zuegel, "Precompensation of Gain Nonuniformity in a Nd:Glass Amplifier Using a Programmable Beam-Shaping System," Opt. Commun. **333**, 45–52 (2014).

2154. C. Stoeckl, M. Bedzyk, G. Brent, R. Epstein, G. Fiksel, D. Guy, V. N. Goncharov, S. X. Hu, S. Ingraham, D. W. Jacobs-Perkins, R. K. Jungquist, F. J. Marshall, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, "Soft X-Ray Backlighting of Cryogenic Implosions Using a Narrowband Crystal Imaging System," Rev. Sci. Instrum. **85** (11), 11E501 (2014) (invited).

2153. V. Yu. Glebov, C. J. Forrest, K. L. Marshall, M. Romanofsky, T. C. Sangster, M. J. Shoup III, and C. Stoeckl, "A New Neutron Time-of-Flight Detector for Fuel-Areal-Density Measurements on OMEGA," Rev. Sci. Instrum. **85** (11), 11E102 (2014).

2152. M. Hohenberger, F. Albert, N. E. Palmer, J. J. Lee, T. Döppner, L. Divol, E. L. Dewald, B. Bachmann, A. G. MacPhee, G. LaCaille, D. K. Bradley, and C. Stoeckl, "Time-Resolved Measurements of the Hot-Electron Population in Ignition-Scale Experiments on the National Ignition Facility," Rev. Sci. Instrum. **85** (11), 11D501 (2014) (invited).

2151. R. L. McCrory and R. Betti, "The Significance of the Latest NIF Results," Phys. Today, published online http://scitation.aip.org/content/aip/magazine/physicstoday/news/10.1063/ pt.5.2004 (1 November 2013).

2150. M. Storm, B. Eichman, C. Orban, S. Jiang, G. Fiksel, C. Stoeckl, G. Dyer, T. Ditmire, R. Stephens, W. Theobald, J. A. Delettrez, R. R. Freeman, and K. Akli, "K_α X-Ray Imaging of Laser-Irradiated, Limited-Mass Zirconium Foils," Phys. Plasmas **21** (7), 072704 (2014).

2149. V. V. Ivanov, A. A. Anderson, D. Papp, B. R. Talbot, J. P. Chittenden, N. Niasse, and I. A. Begishev, "UV Laser-Probing Diagnostics for the Dense Z Pinch," IEEE Trans. Plasma Sci. **42** (5), 1153–1162 (2014).

2148. I. V. Igumenshchev, A. B. Zylstra, C. K. Li, P. M. Nilson, V. N. Goncharov, and R. D. Petrasso, "Self-Generated Magnetic Fields in Direct-Drive Implosion Experiments," Phys. Plasmas **21** (6), 062707 (2014).

2147. S. X. Hu, T. R. Boehly, and L. A. Collins, "Properties of Warm Dense Polystyrene Plasmas Along the Principal Hugoniot," Phys. Rev. E **89** (6), 063104 (2014).

2146. D. R. Harding, H. Goodrich, A. Caveglia, and M. Anthamatten, "Effect of Temperature and Volume on the Tensile and Adhesive Properties of Photocurable Resins," J. Polym. Sci. B, Polym. Phys. **52** (14), 936–945 (2014).

2145. J. D. Hager, T. J. B. Collins, V. A. Smalyuk, J. P. Knauer, D. D. Meyerhofer, and T. C. Sangster, "Study of Rayleigh–Taylor Growth in Laser Irradiated Planar SiO_2 Targets at Ignition-Relevant Conditions," Phys. Plasmas **20** (7), 072707 (2013).

2144. D. Batani, S. Baton, A. Casner, S. Depierreux, M. Hohenberger, O. Klimo, M. Koenig, C. Labaune, X. Ribeyre, C. Rousseaux, G. Schurtz, W. Theobald, and V. T. Tikhonchuk, "Physics Issues for Shock Ignition," Nucl. Fusion **54** (5), 054009 (2014).

2143. H.-M. P. Chen, J. J. Ou, and S. H. Chen, "Glassy Liquid Crystals as Self-Organized Films for Robust Optoelectronic Devices," in *Nanoscience with Liquid Crystals: From Self-Organized Nanostructures to Applications*, edited by Q. Li, Springer Series in NanoScience and Technology (Springer, Switzerland, 2014), Chap. 6, pp. 179–208.

2142. J. Zhang, M. Mikulics, R. Adam, D. Grützmacher, and R. Sobolewski, "Generation of THz Transients by Photoexcited Single-Crystal GaAs Meso-Structures," Appl. Phys. B. **113** (3), 339–344 (2013).

2141. H. X. Vu, D. F. DuBois, D. A. Russell, J. F. Myatt, and J. Zhang, "Nonlinear Development of the Two-Plasmon Decay Instability in Three Dimensions," Phys. Plasmas **21** (4), 042705 (2014).

2140. D. Haberberger, S. Ivancic, S. X. Hu, R. Boni, M. Barczys, R. S. Craxton, and D. H. Froula, "Measurements of Electron Density Profiles Using an Angular Filter Refractometer," Phys. Plasmas **21** (5), 056304 (2014) (invited).

2139. R. Nora, R. Betti, K. S. Anderson, A. Shvydky, A. Bose, K. M. Woo, A. R. Christopherson, J. A. Marozas, T. J. B. Collins, P. B. Radha, S. X. Hu, R. Epstein, F. J. Marshall, R. L. McCrory, T. C. Sangster, and D. D. Meyerhofer, "Theory of Hydro-Equivalent Ignition for Inertial Fusion and its Applications to OMEGA and the National Ignition Facility," Phys. Plasmas **21** (5), 056316 (2014) (invited).

2138. J. F. Myatt, J. Zhang, R. W. Short, A. V. Maximov, W. Seka, D. H. Froula, D. H. Edgell, D. T. Michel, I. V. Igumenshchev, D. E. Hinkel, P. Michel, and J. D. Moody, "Multiple-Beam Laser–Plasma Interactions in Inertial Confinement Fusion," Phys. Plasmas **21** (5), 055501 (2014) (invited).

2137. V. N. Goncharov, T. C. Sangster, R. Betti, T. R. Boehly, M. J. Bonino, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, R. K. Follett, C. J. Forrest, D. H. Froula, V. Yu. Glebov, D. R. Harding, R. J. Henchen, S. X. Hu, I. V. Igumenshchev, R. Janezic, J. H. Kelly, T. J. Kessler, T. Z. Kosc, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. Nora, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, M. Gatu-Johnson, R. D. Petrasso, and D. T. Casey, "Improving the Hot-Spot Pressure and Demonstrating Ignition Hydrodynamic Equivalence in Cryogenic Deuterium–Tritium Implosions on OMEGA," Phys. Plasmas **21** (5), 056315 (2014) (invited).

2136. M. Mikulics, H. Hardtdegen, R. Adam, D. Grützmacher, D. Gregušová, J. Novák, P. Kordoš, Z. Sofer, J. Serafini, J. Zhang, R. Sobolewski, and M. Marso, "Impact of Thermal Annealing on Nonequilibrium Carrier Dynamics in Single-Crystal, Freestanding GaAs Mesostructures," Semicond. Sci. Technol. **29** (14), 045022 (2014).

2135. S. X. Hu, L. A. Collins, T. R. Boehly, J. D. Kress, V. N. Goncharov, and S. Skupsky, "First-Principles Thermal Conductivity of Warm-Dense Deuterium Plasmas for Inertial Confinement Fusion Applications," Phys. Rev. E **89** (4), 043105 (2014).

2134. S.-W. Bahk, J. Bromage, and J. D. Zuegel, "Offner Radial Group Delay Compensator for Ultra-Broadband Laser Beam Transport," Opt. Lett. **39** (4), 1081–1084 (2014).

2133. C. Dorrer, "Spectral and Temporal Properties of Optical Signals with Multiple Sinusoidal Phase Modulations," Appl. Opt. **53** (5), 1007–1019 (2014).

2132. A. V. Okishev, "Abnormal Beam-Profile Behavior in a Nd:YAG Ceramic Regenerative Amplifier," Proc. SPIE **8959**, 89591O (2014).

2131. W. Seka, J. F. Myatt, R. W. Short, D. H. Froula, J. Katz, V. N. Goncharov, and I. V. Igumenshchev, "Nonuniformly Driven Two-Plasmon-Decay Instability in Direct-Drive Implosions," Phys. Rev. Lett. **112** (14), 145001 (2014).

2130. S. Papernov, A. A. Kozlov, J. B. Oliver, T. J. Kessler, and B. Marozas, "Near-Ultraviolet Absorption-Annealing Effects in HfO_2 Thin Films Subjected to Continuous-Wave Laser Irradiation at 355 nm," Proc. SPIE **8885**, 888504 (2013).

2129. J. E. Schoenly, W. Seka, and P. Rechmann, "Pulsed Laser Ablation of Dental Calculus in the Near Ultraviolet," J. Biomed. Opt. **19** (2), 028003 (2014).

2128. M. Hohenberger, W. Theobald, S. X. Hu, K. S. Anderson, R. Betti, T. R. Boehly, A. Casner, D. E. Fratanduono, M. Lafon, D. D. Meyerhofer, R. Nora, X. Ribeyre, T. C. Sangster, G. Schurtz, W. Seka, C. Stoeckl, and B. Yaakobi, "Shock-Ignition Relevant Experiments with Planar Targets on OMEGA," Phys. Plasmas **21** (2), 022702 (2014).

2127. R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, J. A. Frenje, D. H. Froula, M. Gatu-Johnson, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, T. J. Kessler, J. P. Knauer, C. K. Li, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. T. Michel, J. F. Myatt, P. M. Nilson, S. J. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, R. W. Short, A. Shvydky, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, and J. D. Zuegel, "Progress Toward Polar-Drive Ignition for the NIF," in *Proceedings of the 24th IAEA Fusion Energy Conference* (IAEA, Vienna, 2013), Paper IFE 2-1.

2126. D. T. Michel, V. N. Goncharov, I. V. Igumenshchev, R. Epstein, and D. H. Froula, "Demonstration of the Improved Rocket Efficiency in Direct-Drive Implosions Using Different Ablator Materials," Phys. Rev. Lett. **111** (24), 245005 (2013).

2125. S. Salzman, H. J. Romanofsky, Y. I. Clara, L. J. Giannechini, G. West, J. C. Lambropoulos, and S. D. Jacobs, "Magnetorheological Finishing with Chemically Modified Fluids for Studying Material Removal of Single-Crystal ZnS," Proc. SPIE **8884**, 888407 (2013).

2124. M. Hohenberger, N. E. Palmer, G. LaCaille, E. L. Dewald, L. Divol, E. J. Bond, T. Döppner, J. J. Lee, R. L. Kauffman, J. D. Salmonson, C. A. Thomas, D. K. Bradley, C. Stoeckl, and T. C. Sangster, "Measuring the Hot-Electron Population Using Time-Resolved, Hard X-Ray Detectors on the NIF," Proc. SPIE **8850** 88500F (2013).

2123. J. B. Oliver, J. Bromage, C. Smith, D. Sadowski, C. Dorrer, and A. L. Rigatti, "Plasma-Ion-Assisted Coatings for 15 Femtosecond Laser Systems," Appl. Opt. **53** (4), A221–A228 (2014).

2122. R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, D. H. Froula, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, P. W. McKenty, T. Michel, P. M. Nilson, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, W. T. Shmayda, R. W. Short, D. Shvarts, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, J. A. Frenje, D. T. Casey, C. K. Li, R. D. Petrasso, F. H. Séguin, S. J. Padalino, K. A. Fletcher, P. M. Celliers, G. W. Collins, and H. F. Robey, "Progress in Direct-Drive Inertial Confinement Fusion," EPJ Web of Conferences **59**, 01004 (2013).

2121. P. W. McKenty, T. J. B. Collins, J. A. Marozas, T. J. Kessler, J. D. Zuegel, M. J. Shoup, R. S. Craxton, F. J. Marshall, A. Shvydky, S. Skupsky, V. N. Goncharov, P. B. Radha, R. Epstein, T. C. Sangster, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, M. L. Hoppe, A. J. MacKinnon, S. LePape, M. M. Marinak, M. J. Schmitt, P. A. Bradley, N. S. Krasheninnikova, G. R. Magelssen, and T. J. Murphy, "Preparing for Polar-Drive Ignition on the National Ignition Facility," EPJ Web of Conferences **59**, 02014 (2013).

2120. P. B. Radha, F. J. Marshall, T. R. Boehly, T. J. B. Collins, R. S. Craxton, D. Edgell, R. Epstein, J. Frenje, V. N. Goncharov, J. A. Marozas, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, R. D. Petrasso, T. C. Sangster, A. Shvydky, and S. Skupsky, "Polar Drive on OMEGA," EPJ Web of Conferences **59**, 02013 (2013).

2119. W. Theobald, A. Casner, R. Nora, X. Ribeyre, M. Lafon, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, O. V. Gotchev, M. Hohenberger, S. X. Hu, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, L. J. Perkins, T. C. Sangster, G. Schurtz, W. Seka, V. A. Smalyuk, C. Stoeckl, and B. Yaakobi, "Progress in the Shock-Ignition Inertial Confinement Fusion Concept," EPJ Web of Conferences **59**, 03001 (2013).

2118. J. Katz, J. S. Ross, C. Sorce, and D. H. Froula, "A Reflective Image-Rotating Periscope for Spatially Resolved Thomson-Scattering Experiments on OMEGA," J. Inst. **8** (12), C12009 (2013).

2117. K. L. Marshall, D. Saulnier, H. Xianyu, S. Serak, and N. Tabiryan, "Liquid Crystal Near-IR Laser Beam Shapers Employing Photoaddressable Alignment Layers for High-Peak-Power Applications," Proc. SPIE **8828**, 88280N (2013).

2116. D. Saulnier, B. Taylor, K. L. Marshall, T. J. Kessler, and S. D. Jacobs, "Liquid Crystal Chiroptical Polarization Rotators for the Near-UV Region: Theory, Materials, and Device Applications," Proc. SPIE **8828** 882807 (2013).

2115. S.-J. Scott and D. R. Harding, "Accelerated Evaporative Drying of RF Foam for ICF Target Fabrication," in *Proceedings of the 2013 IEEE 25th Symposium on Fusion Engineering (SOFE)* (IEEE, Piscataway, NJ, 2013).

2114. H. P. H. Liddell, K. Mehrotra, J. C. Lambropoulos, and S. D. Jacobs, "Fracture Mechanics of Delamination Defects in Multilayer Dielectric Coatings," Appl. Opt. **52** (32), 7689–7698 (2013).

2113. M. Storm, B. Eichman, Z. Zhong, W. Theobald, P. Schiebel, C. Mileham, C. Stoeckl, I. A. Begishev, G. Fiksel, R. B. Stephens, R. R. Freeman, and K. U. Akli, "Note: Characterization of a High-Photon-Energy X-Ray Imager," Rev. Sci. Instrum. **84** (10), 106103 (2013).

2112. S. X. Hu, "Boosting Photoabsorption by Attosecond Control of Electron Correlation," Phys. Rev. Lett. **111** (12), 123003 (2013).

2111. I. V. Igumenshchev, V. N. Goncharov, W. T. Shmayda, D. R. Harding, T. C. Sangster, and D. D. Meyerhofer, "Effects of Local Defect Growth in Direct-Drive Cryogenic Implosions on OMEGA," Phys. Plasmas. **20** (8), 082703 (2013).

2110. J. R. Davies, R. Betti, P. M. Nilson, and A. A. Solodov, "Copper K-Shell Emission Cross Sections for Laser–Solid Experiments," Phys. Plasmas **20** (8), 083118 (2013).

2109 B. Yaakobi, A. A. Solodov, J. F. Myatt, J. A. Delettrez, C. Stoeckl, and D. H. Froula, "Measurements of the Divergence of Fast Electrons in Laser-Irradiated Spherical Targets," Phys. Plasmas **20** (9), 092706 (2013).

2108. C. Dorrer, R. Roides, R. Cuffney, A. V. Okishev, W. A. Bittle, G. Balonek, A. Consentino, E. Hill, and J. D. Zuegel, "Fiber Front End With Multiple Phase Modulations and High-Bandwidth Pulse Shaping for High-Energy Laser-Beam Smoothing," IEEE J. Sel. Top. Quantum Electron. **19** (6), 3500112 (2013).

2107. R. L. McCrory, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, J. A. Frenje, D. H. Froula, M. Gatu-Johnson, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, T. J. Kessler, J. P. Knauer, C. K. Li, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, P. M. Nilson, S. J. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, R. W. Short, A. Shvydky, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, and J. D. Zuegel, "Progress Towards Polar-Drive Ignition for the NIF," Nucl. Fusion **53** (11), 113021 (2013).

2106. Q. Wang, J. U. Wallace, T. Y.-H. Lee, L. Zeng, J. J. Ou, and S. H. Chen, "Charge Carrier Mobility Through Vacuum–Sublimed Glassy Films of *s*-Triazine- and Carbazole-Based Bipolar Hybrid and Unipolar Compounds," Org. Electron. **14** (11), 2925–2931 (2013).

2105. D. H. Froula, T. J. Kessler, I. V. Igumenshchev, R. Betti, V. N. Goncharov, H. Huang, S. X. Hu, E. Hill, J. H. Kelly, D. D. Meyerhofer, A. Shvydky, and J. D. Zuegel, "Mitigation of Cross-Beam Energy Transfer: Implication of Two-State Focal Zooming on OMEGA," Phys. Plasmas **20** (8), 082704 (2013).

2104. J. E. Schoenly, W. Seka, G. Romanos, and P. Rechmann, "The Efficacy of Selective Calculus Ablation at 400 nm: Comparison to Conventional Calculus Removal Methods," Proc. SPIE **8566**, 85660E (2013).

2103. V. N. Goncharov, "Cryogenic Deuterium and Deuterium-Tritium Direct–Drive Implosions on Omega," in *Laser-Plasma Interactions and Applications*, edited by P. McKenna, D. Neely, R. Bingham, and D. A. Jaroszynski, Scottish Graduate Series (Springer, Switzerland, 2013), Chap. 7, pp. 135–183.

2102. A. V. Okishev, I. A. Begishev, R. Cuffney, S. Papernov, and J. D. Zuegel, "A Highly Energetic, Multiwavelength, Diode-Pumped Nanosecond Laser System with Flexible Pulse-Shaping Capability," Proc. SPIE **8599**, 85990Q (2013).

2101. B. E. Kruschwitz, J. H. Kelly, C. Dorrer, A. V. Okishev, L. J. Waxer, G. Balonek, I. A. Begishev, W. Bittle, A. Consentino, R. Cuffney, E. Hill, J. A. Marozas, M. Moore, R. G. Roides, and J. D. Zuegel, "Commissioning of a Multiple-Frequency Modulation Smoothing by Spectral Dispersion Demonstration System on OMEGA EP," Proc. SPIE **8602**, 86020E (2013).

2100. L. Parlato, R. Arpaia, C. De Lisio, F. Miletto Granozio, G. P. Pepe, P. Perna, V. Pagliarulo, C. Bonavolontà, M. Radovic, Y. Wang, R. Sobolewski, and U. Scotti di Uccio, "Time-Resolved Optical Response of All-Oxide $YBa_2Cu_3O_7/La_{0.7}Sr_{0.3}MnO_3$ Proximitized Bilayers," Phys. Rev. B **87** (13), 134514 (2013).

2099. J. Li, J. R. Davies, T. Ma, W. B. Mori, C. Ren, A. A. Solodov, W. Theobald, and J. Tonge, "Hot-Electron Generation from Laser–Pre-Plasma Interactions in Cone-Guided Fast Ignition," Phys. Plasmas **20** (5), 052706 (2013).

2098. S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, H. A. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, C. Cerjan, G. W. Collins, S. N. Dixit, T. Döppner, M. J. Edwards, D. R. Farley, K. B. Fournier, S. Glenn, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks, N. Izumi, O. S. Jones, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. MacKinnon, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, H.-S. Park, J. Ralph, B. A. Remington, T. C. Sangster, V. A. Smalyuk, P. T. Springer, and R. P. J. Town, "Hot-Spot Mix in Ignition-Scale Inertial Confinement Fusion Targets," Phys. Rev. Lett. **111** (4), 045001 (2013).

2097. L. Gao, P. M. Nilson, I. V. Igumenschev, G. Fiksel, R. Yan, J. R. Davies, D. Martinez, V. Smalyuk, M. G. Haines, E. G. Blackman, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Observation of Self-Similarity in the Magnetic Fields Generated by the Ablative Nonlinear Rayleigh-Taylor Instability," Phys. Rev. Lett. **110** (18), 185003 (2013).

2096. J. Qiao, P. A. Jaanimagi, R. Boni, J. Bromage, and E. Hill, "Measuring 8–250 ps Short Pulses Using a High-Speed Streak Camera on Kilojoule, Petawatt-Class Laser System," Rev. Sci. Instrum. **84** (7), 073104 (2013).

2095. M. Barczys, S.-W. Bahk, M. Spilatro, D. Coppenbarger, E. Hill, T. H. Hinterman, R. W. Kidder, J. Puth, T. Touris, and J. D. Zuegel, "Deployment of a Spatial Light Modulator–Based Beam-Shaping System on the OMEGA EP Laser," Proc. SPIE **8602**, 86020F (2013).

2094. J. H. Kelly, A. Shvydky, J. A. Marozas, M. J. Guardalben, B. E. Kruschwitz, L. J. Waxer, C. Dorrer, E. Hill, A. V. Okishev, and J.-M. Di Nicola, "Simulations of the Propagation of Multiple-FM Smoothing by Spectral Dispersion on OMEGA EP," Proc. SPIE **8602**, 86020D (2013).

2093. J. F. Myatt, H. X. Vu, D. F. DuBois, D. A. Russell, J. Zhang, R. W. Short, and A. V. Maximov, "Mitigation of Two-Plasmon Decay in Direct-Drive Inertial Confinement Fusion Through the Manipulation of Ion-Acoustic and Langmuir Wave Damping," Phys. Plasmas **20** (5), 052705 (2013).

2092. D. T. Michel, A. V. Maximov, R. W. Short, J. A. Delettrez, D. Edgell, S. X. Hu, I. V. Igumenshchev, J. F. Myatt, A. A. Solodov, C. Stoeckl, B. Yaakobi, and D. H. Froula, "Measured Hot-Electron Intensity Thresholds Quantified by a Two-Plasmon-Decay Resonant Common-Wave Gain in Various Experimental Configurations," Phys. Plasmas **20** (5), 055703 (2013).

2091. T. C. Sangster, V. N. Goncharov, R. Betti, P. B. Radha, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, C. J. Forrest, J. A. Frenje, D. H. Froula, M. Gatu-Johnson, Y. Yu Glebov, D. R. Harding, M. Hohenberger, S. X. Hu, I. V. Igumenshchev, R. Janezic, J. H. Kelly, T. J. Kessler, C. Kingsley, T. Z. Kosc, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, J. F. Myatt, R. D. Petrasso, S. P. Regan, W. Seka, W. T. Shmayda, R. W. Short, A. Shvydky, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, V. Versteeg, B. Yaakobi, and J. D. Zuegel, "Improving Cryogenic Deuterium–Tritium Implosion Performance on OMEGA," Phys. Plasmas **20** (5), 056317 (2013).

2090. P. B. Radha, F. J. Marshall, J. A. Marozas, A. Shvydky, I. Gabalski, T. R. Boehly, T. J. B. Collins, R. S. Craxton, D. H. Edgell, R. Epstein, J. A. Frenje, D. H. Froula, V. N. Goncharov, M. Hohenberger, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, R. D. Petrasso, T. C. Sangster, and S. Skupsky, "Polar-Drive Implosions on OMEGA and the National Ignition Facility," Phys. Plasmas **20** (5), 056306 (2013).

2089. K. S. Anderson, R. Betti, P W. McKenty, T. J. B. Collins, M. Hohenberger, W. Theobald, R. S. Craxton, J. A. Delettrez, M. Lafon, J. A. Marozas, R. Nora, S. Skupsky, and A. Shvydky, "A Polar-Drive Shock-Ignition Design for the National Ignition Facility," Phys. Plasmas **20** (5), 056312 (2013).

2088. S. Papernov, "Mechanisms of Near-Ultraviolet, Nanosecond-Pulse–Laser Damage in HfO_2/SiO_2–Based Multilayer Coatings," Chin. Opt. Lett. **11** (s1), S10703 (2013).

2087. K. Mehrotra, H. P. Howard, S. D. Jacobs, and J. C. Lambropoulos, "Nanoindentation Probing of High-Aspect Ratio Pillar Structures on Optical Multilayer Dielectric Diffraction Gratings," in *Local Probing Techniques and In-Situ Measurements in Materials Science*, edited by N. Balke, H. Wang, J. Rijssenbeek, and T. Glatzel, Mater. Res. Soc. Symp. Proc. Vol. 1474, mrss12-1474-ccc08-13 (Materials Research Society, Pittsburgh, PA, 2012).

2086. C. Dorrer, "Analysis of the Chromaticity of Near-Field Binary Beam Shapers," Appl. Opt. **52** (14), 3368–3380 (2013).

2085. I. V. Igumenshchev, D. H. Froula, D. H. Edgell, V. N. Goncharov, T. J. Kessler, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, D. T. Michel, T. C. Sangster, W. Seka, and S. Skupsky, "Laser-Beam Zooming to Mitigate Crossed-Beam Energy Losses in Direct-Drive Implosions," Phys. Rev. Lett. **110** (14), 145001 (2013).

2084. Q. Wang, J. U. Wallace, T. Y.-H. Lee, J. J. Ou, Y.-T. Tsai, Y.-H. Huang, C.-C. Wu, L. J. Rothberg, and S. H. Chen, "Evaluation of Propylene-, *Meta*-, and *Para*-Linked Triazine and *Tert*-Butyltriphenylamine as Bipolar Hosts for Phosphorescent Organic Light-Emitting Diodes," J. Mater. Chem. C **1** (11), 2224–2232 (2013).

2083. W. T. Shmayda, D. R. Harding, V. A. Versteeg, C. Kingsley, M. Hallgren, and S. J. Loucks, "Micron-Scaled Defects on Cryogenic Targets: An Assessment of Condensate Sources," Fusion Sci. Technol. **63** (2), 87–94 (2013).

2082. D. R. Harding, M. D. Wittman, and D. H. Edgell, "Considerations and Requirements for Providing Cryogenic Targets for Direct-Drive Inertial Fusion Implosions at the National Ignition Facility," Fusion Sci. Technol. **63** (2), 95–105 (2013).

2081. D. R. Harding and W. T. Shmayda, "Stress- and Radiation-Induced Swelling in Plastic Capsules," Fusion Sci. Technol. **63** (2), 125–131 (2013).

2080. C. Dorrer, "Analysis of Pulse Replicators for High-Bandwidth, High-Dynamic-Range, Single-Shot Optical Characterization," J. Lightwave Technol. **31** (9), 1374–1382 (2013).

2079. M. Lafon, X. Ribeyre, and G. Schurtz, "Optimal Conditions for Shock Ignition of Scaled Cryogenic Deuterium–Tritium Targets," Phys. Plasmas **20** (2), 022708 (2013).

2078. K. Mehrotra, H. P. Howard, S. D. Jacobs, and J. C. Lambropoulos, "Mechanical Characterization of 'Blister' Defects on Optical Oxide Multilayers Using Nanoindentation," in *Nanocomposites, Nanostructures and Heterostructures of Correlated Oxide Systems*, edited by T. Endo, H. Nishikawa, N. Iwata, A. Bhattacharya, and L. W. Martin, Mat. Res. Soc. Symp. Proc. Vol. 1454 (Cambridge University Press, Cambridge, England, 2012), pp. 215–220.

2077. S. X. Hu, D. T. Michel, D. H. Edgell, D. H. Froula, R. K. Follett, V. N. Goncharov, J. F. Myatt, S. Skupsky, and B. Yaakobi, "Hydrodynamic Simulations of Long-Scale-Length Two-Plasmon–Decay Experiments at the Omega Laser Facility," Phys. Plasmas **20** (3), 032704 (2013).

2076. H. P. Howard, A. F. Aiello, J. G. Dressler, N. R. Edwards, T. J. Kessler, A. A. Kozlov, I. R. T. Manwaring, K. L. Marshall, J. B. Oliver, S. Papernov, A. L. Rigatti, A. N. Roux, A. W. Schmid, N. P. Slaney, C. C. Smith, B. N. Taylor, and S. D. Jacobs, "Improving the Performance of High-Laser-Damage-Threshold, Multilayer Dielectric Pulse-Compression Gratings Through Low-Temperature Chemical Cleaning," Appl. Opt. **52** (8), 1682–1692 (2013).

2075. D. E. Fratanduono, T. R. Boehly, P. M. Celliers, M. A. Barrios, J. H. Eggert, R. F. Smith, D. G. Hicks, G. W. Collins, and D. D. Meyerhofer, "The Direct Measurement of Ablation Pressure Driven by 351-nm Laser Radiation," J. Appl. Phys. **110** (7), 073110 (2011).

2074. H. X. Vu, D. F. DuBois, D. A. Russell, and J. F. Myatt, "Hot-Electron Generation by 'Cavitating' Langmuir Turbulence in the Nonlinear Stage of the Two-Plasmon–Decay Instability," Phys. Plasmas **19** (10), 102708 (2012).

2073. B. Beeman, A. G. MacPhee, J. R. Kimbrough, G. A. Lacaille, M. A. Barrios, J. Emig, J. R. Hunter, E. K. Miller, and W. R. Donaldson, "Mach-Zehnder Modulator Performance Using the Comet Laser Facility and Implications for Use on NIF," Proc. SPIE **8505**, 850507 (2012).

2072. C. Mileham, C. Stoeckl, W. Theobald, G. Fiksel, D. Guy, R. K. Jungquist, P. M. Nilson, T. C. Sangster, and M. J. Shoop III, "Crystal Imager Development at the Laboratory for Laser Energetics," in Proc. SPIE **8505**, 85050L (2012).

2071. S. Papernov, E. Shin, T. Murray, A. W. Schmid, and J. B. Oliver, "355-nm Absorption in HfO_2 and SiO_2 Monolayers with Embedded Hf Nanoclusters Studied Using Photothermal Heterodyne Imaging," Proc. SPIE **8530**, 85301H (2012).

2070. W. Theobald, R. Nora, M. Lafon, A. Casner, X. Ribeyre, K. S. Anderson, R. Betti, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, O. V. Gotchev, M. Hohenberger, S. X. Hu, F. J. Marshall, D. D. Meyerhofer, T. C. Sangster, G. Schurtz, W. Seka, V. A. Smalyuk, C. Stoeckl, and B. Yaakobi, "Spherical Shock-Ignition Experiments with the 40 + 20-Beam Configuration on OMEGA," Phys. Plasmas **19** (10), 102706 (2012).

2069. K. L. Marshall, C. Dorrer, M. Vargas, A. Gnolek, M. Statt, and S.-H. Chen, "Photoaligned Liquid Crystal Devices for High-Peak-Power Laser Applications," Proc. SPIE **8475**, 84750U (2012) (invited).

2068. D. H. Froula, D. T. Michel, I. V. Igumenshchev, S. X. Hu, B. Yaakobi, J. F. Myatt, D. H. Edgell, R. Follett, V. Yu. Glebov, V. N. Goncharov, T. J. Kessler, A. V. Maximov, P. B. Radha, T. C. Sangster, W. Seka, R. W. Short, A. A. Solodov, C. Sorce, and C. Stoeckl, "Laser–Plasma Interactions in Direct-Drive Ignition Plasmas," Plasma Phys. Control. Fusion **54** (12), 124016 (2012).

2067. S. P. Regan, K. Falk, G. Gregori, P. B. Radha, S. X. Hu, T. R. Boehly, B. J. B. Crowley, S. H. Glenzer, O. L. Landen, D. O. Gericke, T. Döppner, D. D. Meyerhofer, C. D. Murphy, T. C. Sangster, and J. Vorberger, "Inelastic X-Ray Scattering from Shocked Liquid Deuterium," Phys. Rev. Lett. **109** (26), 265003 (2012).

2066. D. T. Michel, A. V. Maximov, R. W. Short, S. X. Hu, J. F. Myatt, W. Seka, A. A. Solodov, B. Yaakobi, and D. H. Froula, "Experimental Validation of the Two-Plasmon-Decay Common-Wave Process," Phys. Rev. Lett. **109** (15), 155007 (2012).

2065. H. X. Vu, D. F. DuBois, J. F. Myatt, and D. A. Russell, "Hot-Electron Production and Suprathermal Heat Flux Scaling with Laser Intensity from the Two-Plasmon–Decay Instability," Phys. Plasmas **19** (10), 102703 (2012).

2064. T. Y.-H. Lee, Q. Wang, J. U. Wallace, and S. H. Chen, "Temporal Stability of Blue Phosphorescent Organic Light-Emitting Diodes Affected by Thermal Annealing of Emitting Layers," J. Mater. Chem. **22**, 23,175–23,180 (2012).

2063. L. Gao, P. M. Nilson, I. V. Igumenschev, S. X. Hu, J. R. Davies, C. Stoeckl, M. G. Haines, D. H. Froula, R. Betti, and D. D. Meyerhofer, "Magnetic Field Generation by the Raleigh-Taylor Instability in Laser-Driven Planar Plastic Targets," Phys. Rev. Lett. **109** (11), 115001 (2012).

2062. C. J. Forrest, P. B. Radha, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, A. Pruyne, M. Romanofsky, T. C. Sangster, M. J. Shoup III, C. Stoeckl, D. T. Casey, M. Gatu-Johnson, and S. Gardner, "High-Resolution Spectroscopy Used to Measure Inertial Confinement Fusion Neutron Spectra on OMEGA," Rev. Sci. Instrum. **83** (10), 10D919 (2012) (invited).

2061. W. R. Donaldson, C. Zhao, L. Ji, R. G. Roides, K. Miller, and B. Beeman, "A Single-Shot, Multiwavelength Electro-Optic Data-Acquisition System for Inertial Confinement Fusion Applications," Rev. Sci. Instrum. **83** (10), 10D726 (2012) (invited).

2060. D. T. Michel, C. Sorce, R. Epstein, N. Whiting, I. V. Igumenshchev, R. Jungquist, and D. H. Froula, "Shell Trajectory Measurements from Direct-Drive Implosion Experiments," Rev. Sci. Instrum. **83** (10), 10E530 (2012).

2059. B. E. Kruschwitz, S.-W. Bahk, J. Bromage, M. D. Moore, and D. Irwin, "Accurate Target-Plane Focal-Spot Characterization in High-Energy Laser Systems Using Phase Retrieval," Opt. Express **20** (19), 20,874–20,883 (2012).

2058. J. Katz, R. Boni, C. Sorce, R. Follett, M. J. Shoup III, and D. H. Froula, "A Reflective Optical Transport System for Ultraviolet Thomson Scattering from Electron Plasma Waves on OMEGA," Rev. Sci. Instrum. **83** (10), 10E349 (2012).

2057. S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, D. A. Callahan, G. W. Collins, S. N. Dixit, M. J. Edwards, D. R. Farley, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks, N. Izumi, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, A. J. MacKinnon, R. C. Mancini, F. J. Marshall, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, K. J. Peterson, T. C. Sangster, P. Springer, and R. P. J. Town, "Diagnosing Implosions at the National Ignition Facility with X-Ray Spectroscopy," in *The 17*th *International Conference on Atomic Processes in Plasmas (ICAPiP), AIP Conf. Proc. 1438*, edited by K. Aggarwal and F. Shearer (American Institute of Physics, New York, 2012), pp. 49–54.

2056. D. H. Froula, R. Boni, M. Bedzyk, R. S. Craxton, F. Ehrne, S. Ivancic, R. Jungquist, M. J. Shoup, W. Theobald, D. Weiner, N. L. Kugland, and M. C. Rushford, "Optical Diagnostic Suite (Schlieren, Interferometry, and Grid Image Refractometry) on OMEGA EP using a 10-ps, 263-nm Probe Beam," Rev. Sci. Instrum. **83** (10), 10E523 (2012).

2055. C. Stoeckl, J. A. Delettrez, R. Epstein, G. Fiksel, D. Guy, M. Hohenberger, R. K. Jungquist, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, "Soft X-Ray Backlighting of Direct-Drive Implosions Using a Spherical Crystal Imager on OMEGA," Rev. Sci. Instrum. **83** (10), 10E501 (2012).

2054. P. B. Radha, J. A. Marozas, F. J. Marshall, A. Shvydky, T. J. B. Collins, V. N. Goncharov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, and S. Skupsky, "OMEGA Polar-Drive Target Designs," Phys. Plasmas **19** (8), 082704 (2012).

2053. M. Mikulics, J. Zhang, J. Serafini, R. Adam, D. Grützmacher, and R. Sobolewski, "Subpicosecond Electron-Hole Recombination Time and Terahertz-Bandwidth Photoresponse in Freestanding GaAs Epitaxial Mesoscopic Structures," Appl. Phys. Lett. **101** (3), 031111 (2012).

2052. S. X. Hu, V. N. Goncharov, and S. Skupsky, "Burning Plasmas with Ultrashort Soft-X-Ray Flashing," Phys. Plasmas **19** (7), 072703 (2012).

2051. J. D. Hager, V. A. Smalyuk, S. X. Hu, J. P. Knauer, D. D. Meyerhofer, and T. C. Sangster, "Study of Rayleigh–Taylor Growth in Directly Driven Cryogenic-Deuterium Targets," Phys. Plasmas **19** (7), 072707 (2012).

2050. R. Q. Gram, A. She, R. S. Craxton, and D. R. Harding, "Thermal Conductivity of Solid Deuterium by the 3ω Method," J. Appl. Phys. **112** (3), 033504 (2012).

2049. V. Yu. Glebov, C. Forrest, J. P. Knauer, A. Pruyne, M. Romanofsky, T. C. Sangster, M. J. Shoup III, C. Stoeckl, J. A. Caggiano, M. L. Carman, T. J. Clancy, R. Hatarik, J. McNaney, and N. P. Zaitseva, "Testing a New NIF Neutron Time-of-Flight Detector with a Bibenzyl Scintillator on OMEGA," Rev. Sci. Instrum. **83** (10), 10D309 (2012).

2048. G. Fiksel, F. J. Marshall, C. Mileham, and C. Stoeckl, "Note: Spatial Resolution on Fuji BAS-TR and BAS-SR Imaging Plates," Rev. Sci. Instrum. **83** (8), 086103 (2012).

2047. D. H. Edgell, D. K. Bradley, E. J. Bond, S. Burns, D. A. Callahan, J. Celeste, M. J. Eckart, V. Yu. Glebov, D. S. Hey, G. Lacaille, J. D. Kilkenny, J. Kimbrough, A. J. Mackinnon, J. Magoon, J. Parker, T. C. Sangster, M. J. Shoup III, C. Stoeckl, T. Thomas, and A. MacPhee, "South Pole Bang-Time Diagnostic on the National Ignition Facility," Rev. Sci. Instrum. **83** (10), 10E119 (2012) (invited).

2046. J. Bromage, C. Dorrer, M. Millecchia, J. Bunkenburg, R. Jungquist, and J. D. Zuegel, "A Front End for Ultra-Intense OPCPA," in *Light at Extreme Intensities 2011, AIP Conf. Proc. 1462*, edited by K. Osvay, P. Dombi, J. A. Fulop, and K. Varju (American Institute of Physics, New York, 2012), pp. 74–77.

2045. G. Fiksel, S. X. Hu, V. A. Goncharov, D. D. Meyerhofer, T. C. Sangster, V. A. Smalyuk, B. Yaakobi, M. J. Bonino, and R. Jungquist, "Experimental Reduction of Laser Imprinting and Rayleigh–Taylor Growth in Spherically Compressed, Medium-Z-Doped Plastic Targets," Phys. Plasmas **19** (6), 062704 (2012).

2044. M. Millecchia, S. P. Regan, R. E. Bahr, M. Romanofsky, and C. Sorce, "Streaked X-Ray Spectrometer Having a Discrete Selection of Bragg Geometries for Omega," Rev. Sci Instrum. **83** (10), 10E107 (2012).

2043. F. J. Marshall, "Compact Kirkpatrick–Baez Microscope Mirrors for Imaging Laser-Plasma X-Ray Emission," Rev. Sci. Instrum. **83** (10), 10E518 (2012).

2042. J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, C. Smith, and R. D. Hand, "Stress Compensation in Hafnia/Silica Optical Coatings by Inclusion of Alumina Layers," Opt. Express **20** (15), 16,596–16,610 (2012).

2041. K. Falk, S. P. Regan, J. Vorberger, M. A. Barrios, T. R. Boehly, D. E. Fratanduono, S. H. Glenzer, D. G. Hicks, S. X. Hu, C. D. Murphy, P. B. Radha, S. Rothman, A. P. Jephcoat, J. S. Wark, D. O. Gericke, and G. Gregori, "Self-Consistent Measurement of the Equation of State of Liquid Deuterium," High Energy Density Phys. **8**, 76–80 (2012).

2040. I. V. Igumenshchev, W. Seka, D. H. Edgell, D. T. Michel, D. H. Froula, V. N. Goncharov, R. S. Craxton, L. Divol, R. Epstein, R. Follett, J. H. Kelly, T. Z. Kosc, A. V. Maximov, R. L. McCrory, D. D. Meyerhofer, P. Michel, J. F. Myatt, T. C. Sangster, A. Shvydky, S. Skupsky, and C. Stoeckl, "Crossed-Beam Energy Transfer in Direct-Drive Implosions," Phys. Plasmas **19**, 056314 (2012).

2039. I. Iñiguez-de-la-Torre, H. Rodilla, J. Mateos, T. Gonzáles, H. Irie, and R. Sobolewski, "Monte Carlo Studies of the Intrinsic Time-Domain Response of Nanoscale Three-Branch Junctions," J. Appl. Phys. **111**, 084511 (2012).

2038. S. X. Hu, G. Fiksel, V. N. Goncharov, S. Skupsky, D. D. Meyerhofer, and V. A. Smalyuk "Mitigating Laser Imprint in Direct-Drive Inertial Confinement Fusion Implosions with High-Z Dopants," Phys. Rev. Lett. **108**, 195003 (2012).

2037. M. A. Barrios, T. R. Boehly, D. G. Hicks, D. E. Fratanduono, J. H. Eggert, G. W. Collins, and D. D. Meyerhofer, "Precision Equation-of-State Measurements on National Ignition Facility Ablator Materials from 1 to 12 Mbar Using Laser-Driven Shock Waves," J. Appl. Phys. **111**, 093515 (2012).

2036. J. E. Schoenly, W. Seka, J. D. B. Featherstone, and P. Rechmann "Near-UV Laser Treatment of Extrinsic Dental Enamel Stains," Lasers Surg. Med. **44**, 339–345 (2012).

2035. J. Bromage, C. Dorrer, and R. K. Jungquist, "Temporal Contrast Degradation at the Focus of Ultrafast Pulses from High-Frequency Spectral Phase Modulation," J. Opt. Soc. Am. B **29** (5), 1125–1135 (2012).

2034. D. H. Froula, B. Yaakobi, S. X. Hu, P.-Y. Chang, R. S. Craxton, D. H. Edgell, R. Follett, D. T. Michel, J. F. Myatt, W. Seka, R. W. Short, A. A. Solodov, and C. Stoeckl, "Saturation of the Two-Plasmon Decay Instability in Long-Scale-Length Plasmas Relevant to Direct-Drive Inertial Confinement Fusion," Phys. Rev. Lett. **108** (16), 165003 (2012).

2033. M. Guziewicz, W. Słysz, M. Borysiewicz, R. Kruszka, Z. Sidor, M. Juchniewicz, K. Golaszewska, J. Z. Domagała, W. Rzodkiewicz, J. Ratajczak, J. Bar, M. Węgrzecki, and R. Sobolewski, "Technology of Ultrathin NbN and NbTiN Films for Superconducting Photodetectors," Acta Phys. Pol. A **120** (6-A), A76–A79 (2011).

2032. C. Stoeckl, G. Fiksel, D. Guy, C. Mileham, P. M. Nilson, T. C. Sangster, M. J. Shoup III, and W. Theobald, "A Spherical Crystal Imager for OMEGA EP," Rev. Sci. Instrum. **83** (3), 033107 (2012).

2031. M. Hohenberger, P.-Y. Chang, G. Fiksel, J. P. Knauer, R. Betti, F. J. Marshall, D. D. Meyerhofer, F. H. Séguin, and R. D. Petrasso, "Inertial Confinement Fusion Implosions with Imposed Magnetic Field Compression Using the OMEGA Laser," Phys. Plasmas **19** (5), 056306 (2012).

2030. A. J. Visco, R. P. Drake, S. H. Glenzer, T. Döppner, G. Gregori, D. H. Froula, and M. J. Grosskopf, "Measurement of Radiative Shock Properties by X-Ray Thomson Scattering," Phys. Rev. Lett. **108** (14), 145001 (2012).

2029. T. J. B. Collins, J. A Marozas, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, V. N. Goncharov, D. R. Harding, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, P. W. McKenty, P. B. Radha, A. Shvydky, S. Skupsky, and J. D Zuegel, "A Polar-Drive–Ignition Design for the National Ignition Facility," Phys. Plasmas **19** (5), 056308 (2012).

2028. D. H. Froula, I. V. Igumenshchev, D. T. Michel, D. H. Edgell, R. Follett, V. Yu. Glebov, V. N. Goncharov, J. Kwiatkowski, F. J. Marshall, P. B. Radha, W. Seka, C. Sorce, S. Stagnitto, C. Stoeckl, and T. C. Sangster, "Increasing Hydrodynamic Efficiency by Reducing Cross-Beam Energy Transfer in Direct-Drive-Implosion Experiments," Phys. Rev. Lett. **108** (12), 125003 (2012).

2027. S. P. Regan, R. Epstein, B. A. Hammel, L. J. Suter, J. Ralph, H. Scott, M. A. Barrios, D. K. Bradley, D. A Callahan, C. Cerjan, G. W. Collins, S. N. Dixit, T. Doeppner, M. J. Edwards, D. R. Farley, S. Glenn, S. H. Glenzer, I. E. Golovkin, S. W. Haan, A. Hamza, D. G. Hicks, N. Izumi, J. D. Kilkenny, J. L. Kline, G. A. Kyrala, O. L. Landen, T. Ma, J. J. MacFarlane, R. C. Mancini, R. L. McCrory, N. B. Meezan, D. D. Meyerhofer, A. Nikroo, K. J. Peterson, T. C. Sangster, P. Springer, and R. P. J. Town, "Hot-Spot Mix in Ignition-Scale Implosions on the NIF," Phys. Plasmas **19** (5), 056307 (2012).

2026. A. V. Okishev, "Highly Efficient Room-Temperature Yb:YAG Ceramic Laser and Regenerative Amplifier," Opt. Lett. **37** (7), 1199–1201 (2012).

2025. A. Trajkovska Petkoska and S. D. Jacobs, "The Manufacture, Characterization and Manipulation of Polymer Cholesteric Liquid Crystal Flakes and Their Possible Applications," J. Mater. Sci. Eng. A **2** (2), 137–151 (2012).

2024. A. V. Okishev, C. Dorrer, Y. Fisher, and M. Pavia, "A Multiwavelength, Variable-Pulse-Width, Diode-Pumped Laser System," Proc. SPIE **8235**, 82350Y (2012).

2023. J. F. Myatt, J. Zhang, J. A. Delettrez, A. V. Maximov, R. W. Short, W. Seka, D. H. Edgell, D. F. DuBois, D. A. Russell, and H. X. Vu, "The Dynamics of Hot-Electron Heating in Direct-Drive-Implosion Experiments Caused by Two-Plasmon-Decay Instability," Phys. Plasmas **19** (2), 022707 (2012).

2022. K. A. Marsh, C. E. Clayton, C. Joshi, W. Lu, W. B. Mori, A. Pak, L. O. Silva, N. Lemos, R. A. Fonseca, S. de Freitas Martins, F. Albert, T. Doeppner, C. Filip, D. Froula, S. H. Glenzer, D. Price, J. Ralph, and B. B. Pollock, "Laser Wakefield Acceleration Beyond 1 GeV Using Ionization Induced Injection," in the *Proceedings of 2011 Particle Accelerator Conference* (IEEE, New York, NY, 2011), pp. 707–711.

2021. B. B. Pollock, G. R. Tynan, F. Albert, C. Filip, S. H. Glenzer, J. Meinecke, A. Pak, J. E. Ralph, C. E. Clayton, C. Joshi, K. A. Marsh, J. Shaw, K. L. Herpoldt, and D. H. Froula, "The Effects of a Density Mismatch in a Two-Stage LWFA," in the *Proceedings of 2011 Particle Accelerator Conference* (IEEE, New York, NY, 2011), pp. 1421–1423.

2020. B. Yaakobi, P-Y. Chang, A. Solodov, C. Stoeckl, D. H. Edgell, R. S. Craxton, S. X. Hu, J. F. Myatt, F. J. Marshall, W. Seka, and D. H. Froula, "Fast-Electron Generation in Long-Scale-Length Plasmas," Phys. Plasmas **19** (1), 012704 (2012).

2019. P. M. Nilson, J. R. Davies, W. Theobald, P. A. Jaanimagi, C. Mileham, R. K. Jungquist, C. Stoeckl, I. A. Begishev, A. A. Solodov, J. F. Myatt, J. D. Zuegel, T. C. Sangster, R. Betti, and D. D. Meyerhofer, "Time-Resolved Measurements of Hot-Electron Equilibration Dynamics in High-Intensity Laser Interactions with Thin-Foil Solid Targets," Phys. Rev. Lett. **108** (8), 085002 (2012).

2018. J. Zhang, A. Belousov, J. Karpiński, B. Batlogg, G. Wicks, and R. Sobolewski, "Time-Resolved Femtosecond Optical Characterization of Multi-Photon Absorption in High-Pressure-Grown Al0.86Ga0.14N Single Crystals," J. Appl. Phys. **110** (11), 113112 (2011).

2017. K. Mehrotra, H. P. Howard, S. D. Jacobs, and J. C. Lambropoulos, "Nanoindentation of High-Aspect Ratio Pillar Structures on Optical Multilayer Dielectric Diffraction Gratings," AIP Adv. **1** (4), 042179 (2011).

2016. D. E. Fratanduono, J. H. Eggert, T. R. Boehly, M. A. Barrios, D. D. Meyerhofer, B. J. Jensen, and G. W. Collins, "Index of Refraction of Shock-Released Materials," J. Appl. Phys. **110** (8), 083509 (2011).

2015. S. X. Hu, B. Militzer, V. N. Goncharov, and S. Skupsky, "First-Principles Equation-of-State Table of Deuterium for Inertial Confinement Fusion Applications," Phys. Rev. B **84** (22), 224109 (2011).

2014. I. Íñiguez-de-la-Torre, S. Purohit, V. Kaushal, M. Margala, M. Gong, R. Sobolewski, D. Wolpert, P. Ampadu, T. González, and J. Mateos, "Exploring Digital Logic Design Using Ballistic Deflection Transistors Through Monte Carlo Simulations," IEEE Trans. Nanotechnol. **10** (6), 1337–1346 (2011).

2013. J.-H. Yang, R. S. Craxton, and M. G. Haines, "Explicit General Solutions to Relativistic Electron Dynamics in Plane-Wave Electromagnetic Fields and Simulations of Ponderomotive Acceleration," Plasma Phys. Control. Fusion **50**, 125006 (2011).

2012. S. H. Chen and S. K.-H. Wei, "Modification of the Stokes–Einstein Equation with a Semiempirical Microfriction Factor for Correlation of Tracer Diffusivities in Organic Solvents," Ind. Eng. Chem. Res. **50**, 12,304–12,310 (2011).

2011. C. Dorrer, S. K.-H. Wei, P. Leung, M. Vargas, K. Wegman, J. Boulé, Z. Zhao, K. L. Marshall, and S. H. Chen, "High-Damage-Threshold Static Laser Beam Shaping Using Optically Patterned Liquid-Crystal Devices," Opt. Lett. **36** (20), 4035–4037 (2011).

2010. S. D. Jacobs, "MRF with Adjustable pH," Proc. SPIE **8169**, 816902 (2011).

2009. T. R. Boehly, V. N. Goncharov, W. Seka, S. X. Hu, J. A. Marozas, D. D. Meyerhofer, P. M. Celliers, D. G. Hicks, M. A. Barrios, D. Fratanduono, and G. W. Collins, "Multiple Spherically Converging Shock Waves in Liquid Deuterium," Phys. Plasmas **18** (9), 092706 (2011).

2008. K. L. Marshall, S. K.-H. Wei, M. Vargas, K. Wegman, C. Dorrer, P. Leung, J. Boule III, Z. Zhao, and S. H. Chen, "Liquid Crystal Beam–Shaping Devices Employing Patterned Photoalignment Layers for High-Peak-Power Laser Applications," Proc. SPIE **8114**, 81140P (2011).

2007. J. Bromage, J. Rothhardt, S. Hädrich, C. Dorrer, C. Jocher, S. Demmler, J. Limpert, A. Tünnermann, and J. D. Zuegel, "Analysis and Suppression of Parasitic Processes in Noncollinear Optical Parametric Amplifiers," Opt. Express **19** (18), 16,797–16,808 (2011).

2006. R. Nora and R. Betti, "One-Dimensional Planar Hydrodynamic Theory of Shock Ignition," Phys. Plasmas **18** (8), 082710 (2011).

2005. S.-W. Bahk, "Highly Accurate Wavefront Reconstruction Algorithms over Broad Spatial-Frequency Bandwidth," Opt. Express **19** (20), 18,997–19,014 (2011).

2004. J.-H. Yang and R. S. Craxton, "An Empirical Model of Collective Electrostatic Effects for Laser-Beam Channeling in Long-Scale-Length Relativistic Plasmas," Phys. Plasmas **18** (8), 082703 (2011).

2003. C. Miao, R. Shen, M. Wang, S. N. Shafrir, H. Yang, and S. D. Jacobs, "Rheology of Aqueous Magnetorheological Fluid Using Dual Oxide-Coated Carbonyl Iron Particles," J. Am. Ceram. Soc. **94** (8), 2386–2392 (2011).

2002. M. Mikulics, P. Kordoš, D. Gregušová, R. Adam, M. Kočan, S. Wu, J. Zhang, R. Sobolewski, D. Grützmacher, and M. Marso, "Monolithic Integration of Ultrafast Photodetector and MESFET in the GaN Material System," IEEE Photonics Technol. Lett. **23** (17), 1189–1191 (2011).

2001. E. D. Głowacki, K. L. Marshall, C. W. Tang, and N. S. Sariciftci, "Doping of Organic Semiconductors Induced by Lithium Fluoride/Aluminum Electrodes Studied by Electron Spin Resonance and Infrared Reflection-Absorption Spectroscopy," Appl. Phys. Lett. **99** (4), 043305 (2011).

2000. B. Xu and S. X. Hu, "Effects of Electron-Ion Temperature Equilibration on Inertial Confinement Fusion Implosions," Phys. Rev. E **84** (1), 016408 (2011).

1999. G. Li, R. Yan, C. Ren, J. Tonge, and W. B. Mori, "Three-Dimensional Particle-in-Cell Simulations of Laser Channeling in Fast Ignition," Phys. Plasmas **18** (4), 042703 (2011).

1998. P. Y. Chang, G. Fiksel, M. Hohenberger, J. P. Knauer, R. Betti, F. J. Marshall, D. D. Meyerhofer, F. H. Séguin, and R. D. Petrasso, "Fusion Yield Enhancement in Magnetized Laser-Driven Implosions," Phys. Rev. Lett. **107** (3), 035006 (2011).

1997. B. B. Pollock, C. E. Clayton, J. E. Ralph, F. Albret, A. Davidson, L. Divol, C. Filip, S. H. Glenzer, K. Herpoldt, W. Lu, K. A. Marsh, J. Meinecke, W. B. Mori, A. Pak, T. C. Rensink, J. S. Ross, J. Shaw, G. R. Tynan, C. Joshi, and D. H. Froula, "Demonstration of a Narrow Energy Spread, ~0.5 GeV Electron Beam from a Two-Stage Laser Wakefield Accelerator," Phys. Rev. Lett. **107** (4), 045001 (2011).

1996. J. E. Schoenly, W. D. Seka, and P. Rechmann, "Near-Ultraviolet Removal Rates for Subgingival Dental Calculus at Different Irradiation Angles," J. Biomed. Opt. **16** (7), 071404 (2011).

1995. S. P. Regan, H. Sawada, V. N. Goncharov, D. Li, P. B. Radha, R. Epstein, J. A. Delettrez, S. X. Hu, V. A. Smalyuk, B. Yaakobi, T. R. Boehly, T. C. Sangster, D. D. Meyerhofer, R. L. McCrory, and R. C. Mancini, "Spectroscopic Observations of Fermi-Degenerate Aluminum Compressed and Heated to Four Times Solid Density and 20 eV," High Energy Density Phys. **7**, 259–262 (2011).

1994. C. G. Freeman, G. Fiksel, C. Stoeckl, N. Sinenian, M. J. Canfield, G. B. Graeper, A. T. Lombardo, C. R. Stillman, S. J. Padalino, C. Mileham, T. C. Sangster, and J. A. Frenje, "Calibration of a Thomson Parabola Ion Spectrometer and Fujifilm Imaging Plate Detectors for Protons, Deuterons, and Alpha Particles," Rev. Sci. Instrum. **82** (7), 073301 (2011).

1993. R. Xin and J. D. Zuegel, "Amplifying Nanosecond Optical Pulses at 1053 nm with an All-Fiber Regenerative Amplifier," Opt. Lett. **36** (14), 2605–2607 (2011).

1992. M. C. Ghilea, D. D. Meyerhofer, and T. C. Sangster, "Neutron-Induced Nucleation Inside Bubble Chambers Using Freon 115 as the Active Medium," Nucl. Instrum. Methods Phys. Res. A **648**, 210–217 (2011).

1991. D. E. Fratanduono, T. R. Boehly, M. A. Barrios, D. D. Meyerhofer, J. H. Eggert, R. F. Smith, D. G. Hicks, P. M. Celliers, D. G. Braun, and G. W. Collins, "Refractive Index of Lithium Fluoride Ramp Compressed to 800 GPa," J. Appl. Phys. **109** (12), 123521 (2011).

1990. S. Papernov, A. Tait, W. Bittle, A. W. Schmid, J. B. Oliver, and P. Kupinski, "Near-Ultraviolet Absorption and Nanosecond-Pulse-Laser Damage in HfO_2 Monolayers Studied by Submicrometer-Resolution Photothermal Heterodyne Imaging and Atomic Force Microscopy," J. Appl. Phys. **109** (11), 113106 (2011).

1989. T. R. Boehly, V. N. Goncharov, W. Seka, M. A. Barrios, P. M. Celliers, D. G. Hicks, G. W. Collins, S. X. Hu, J. A. Marozas, and D. D. Meyerhofer, "Velocity and Timing of Multiple Spherically Converging Shock Waves in Liquid Deuterium," Phys. Rev. Lett. **106** (19), 195005 (2011).

1988. W. Theobald, A. A. Solodov, C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, C. Dorrer, J. A. Frenje, V. Yu. Glebov, H. Habara, K. A. Tanaka, J. P. Knauer, R. Lauck, F. J. Marshall, K. L. Marshall, D. D. Meyerhofer, P. M. Nilson, P. K. Patel, H. Chen, T. C. Sangster, W. Seka, N. Sinenian, T. Ma, F. N. Beg, E. Giraldez, and R. B. Stephens, "Initial Cone-in-Shell Fast-Ignition Experiments on OMEGA," Phys. Plasmas **18** (5), 056305 (2011).

1987. A. V. Okishev, "Characterization of Highly Stable Mid-IR, GaSb-Based Laser Diodes," Opt. Express **19** (10), 9863–9867 (2011).

1986. J. Bromage, J. M. Fini, C. Dorrer, and J. D. Zuegel, "Characterization and Optimization of Yb-Doped Photonic-Crystal Fiber Rod Amplifiers Using Spatially Resolved Spectral Interferometry," Appl. Opt. **50** (14), 2001–2007 (2011).

1985. P. M. Nilson, W. Theobald, C. Mileham, C. Stoeckl, J. F. Myatt, J. A. Delettrez, J. MacFarlane, I. A. Begishev, J. D. Zuegel, R. Betti, T. C. Sangster, and D. D. Meyerhofer, "Target-Heating Effects on the $K_{\alpha 1,2}$-Emission Spectrum from Solid Targets Heated by Laser-Generated Hot Electrons," Phys. Plasmas **18** (4), 042702 (2011).

1984. S. K.-H. Wei, L. Zeng, K. L. Marshall, and S. H. Chen, "Room-Temperature Processing of π-Conjugated Oligomers into Uniaxially Oriented Monodomain Films on Coumarin-Based Photoalignment Layers," J. Polym. Sci. B, Polym. Phys. **49**, 725–731 (2011).

1983. P. B. Radha, R. Betti, T. R. Boehly, J. A. Delettrez, D. H. Edgell, V. N. Goncharov, I. V. Igumenshchev, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, A. A. Solodov, C. Stoeckl, W. Theobald, J. A. Frenje, D. T. Casey, C. K. Li, and R. D. Petrasso, "Inertial Confinement Fusion Using the OMEGA Laser System," IEEE Trans. Plasma Sci. **39** (4), 1007–1014 (2011).

1982. D. D. Meyerhofer, R. L. McCrory, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, J. A. Frenje, Y. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, C. K. Li, J. A. Marozas, F. J. Marshall, P. W. McKenty, P. M. Nilson, S. P. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, J. M. Soures, C. Stoeckl, W. Theobald, and B. Yaakobi, "High-Performance Inertial Confinement Fusion Target Implosions on OMEGA," Nucl. Fusion **51**, 053010 (2011).

1981. P. M. Nilson, A. A. Solodov, J. F. Myatt, W. Theobald, P. A. Jaanimagi, L. Gao, C. Stoeckl, R. S. Craxton, J. A. Delettrez, B. Yaakobi, J. D. Zuegel, B. E. Kruschwitz, C. Dorrer, J. H. Kelly, K. U. Akli, P. K. Patel, A. J. Mackinnon, R. Betti, T. C. Sangster, and D. D. Meyerhofer, "Scaling Hot-Electron Generation to Long-Pulse, High-Intensity Laser–Solid Interactions," Phys. Plasmas **18** (5), 056703 (2011).

1980. S. X. Hu, "Attosecond Timing the Ultrafast Charge-Transfer Process in Atomic Collisions," Phys. Rev. A **83** (4), 041401(R) (2011).

1979. J. M. Soures, "Opportunities for Inertial Fusion and High-Energy-Density Physics Research at the National Laser Users' Facility," Proc. SPIE **7916**, 791603 (2011).

1978. M. J. Guardalben and L. J. Waxer, "Improvements to Long-Pulse System Performance and Operational Efficiency on OMEGA EP," Proc. SPIE **7916**, 79160G (2011).

1977. M. C. Ghilea, D. D. Meyerhofer, and T. C. Sangster, "A Freon-Filled Bubble Chamber for Neutron Detection in Inertial Confinement Fusion Experiments," Rev. Sci. Instrum. **82** (3), 033305 (2011).

1976. W. R. Donaldson, D. N. Maywar, J. H. Kelly, and R. E. Bahr, "Measurement of the Self-Phase Modulation-Induced Bandwidth in a 30 kJ Class Laser Amplifier Chain," J. Opt. Soc. Am. B **28** (3), 445–449 (2011).

1975. S. K. H. Wei and S. H. Chen, "Spatially Resolved Lasers Using a Glassy Cholesteric Liquid Crystal Film with Lateral Pitch Gradient," Appl. Phys. Lett. **98** (11), 111112 (2011).

1974. P. B. Radha, C. Stoeckl, V. N. Goncharov, J. A. Delettrez, D. H. Edgell, J. A. Frenje, I. V. Igumenshchev, J. P. Knauer, J. A. Marozas, R. L. McCrory, D. D. Meyerhofer, R. D. Petrasso, S. P. Regan, T. C. Sangster, W. Seka, and S. Skupsky, "Triple-Picket Warm Plastic-Shell Implosions on OMEGA," Phys. Plasmas **18** (1), 012705 (2011).

1973. W. Wang, T. B. Jones, and D. R. Harding, "On-Chip Double Emulsion Droplet Assembly Using Electrowetting-on-Dielectric and Dielectrophoresis," Fusion Sci. Technol. **59**, 240–249 (2011).

1972. S. Papernov, A. Tait, W. Bittle, A. W. Schmid, J. B. Oliver, and P. Kupinski, "Submicrometer-Resolution Mapping of Ultraweak 355-nm Absorption in HfO_2 Monolayers Using Photothermal Heterodyne Imaging," Proc. SPIE **7842**, 78420A (2010).

1971. I. V. Igumenshchev, D. H. Edgell, V. N. Goncharov, J. A. Delettrez, A. V. Maximov, J. F. Myatt, W. Seka, A. Shvydky, S. Skupsky, and C. Stoeckl, "Crossed-Beam Energy Transfer in Implosion Experiments on OMEGA," Phys. Plasmas **17** (12), 122708 (2010).

1970. D. H. Froula, S. H. Glenzer, N. C. Luhmann, and J. Sheffield, *Plasma Scattering of Electromagnetic Radiation: Experiment, Theory and Measurement Techniques* (Elsevier, Burlington, MA, 2011).

1969. A. S. Cross, J. P. Knauer, A. Mycielski, D. Kochanowska, M. Wiktowska-Baran, R. Jakieła, J. Domagała, Y. Cui, R. B. James, and R. Sobolewski, "(Cd,Mn)Te Detectors for Characterization of X-Ray Emissions Generated During Laser-Driven Fusion Experiments," Nucl. Instrum. Methods Phys. Res. A **624** , 649–655 (2010).

1968. B. Ciftcioglu, J. Zhang, R. Sobolewski, and H. Wu, "An 850-nm Normal-Incidence Germanium Metal–Semiconductor–Metal Photodetector With 13-GHz Bandwidth and 8-μA Dark Current," IEEE Photon. Technol. Lett. **22** (24), 1850–1852 (2010).

1967. P. M. Nilson, A. A. Solodov, J. F. Myatt, W. Theobald, P. A. Jaanimagi, L. Gao, C. Stoeckl, R. S. Craxton, J. A. Delettrez, B. Yaakobi, J. D. Zuegel, B. E. Kruschwitz, C. Dorrer, J. H. Kelly, K. U. Akli, P. K. Patel, A. J. Mackinnon, R. Betti, T. C. Sangster, and D. D. Meyerhofer, "Scaling Hot-Electron Generation to High-Power, Kilojoule-Class Laser-Solid Interactions," Phys. Rev. Lett. **105** (23), 235001 (2010).

1966. V. Kaushal, I. Iñiguez-de-la-Torre, H. Irie, G. Guarino, W. R. Donaldson, P. Ampadu, R. Sobolewski, and M. Margala, "A Study of Geometry Effects on the Performance of Ballistic Deflection Transistor," IEEE Trans. Nanotech. **9** (6), 723–733 (2010).

1965. V. Yu. Glebov, T. C. Sangster, C. Stoeckl, J. P. Knauer, W. Theobald, K. L. Marshall, M. J. Shoup III, T. Buczek, M. Cruz, T. Duffy, M. Romanofsky, M. Fox, A. Pruyne, M. J. Moran, R. A. Lerche, J. McNaney, J. D. Kilkenny, M. J. Eckart, D. Schneider, D. Munro, W. Stoeffl, R. Zacharias, J. J. Haslam, T. Clancy, M. Yeoman, D. Warwas, C. J. Horsfield, J.-L. Bourgade, O. Landoas, L. Disdier, G. A. Chandler, and R. J. Leeper, "The National Ignition Facility Neutron Time-of-Flight System and Its Initial Performance," Rev. Sci. Instrum. **81** (10), 10D325 (2010).

1964. S. X. Hu, V. N. Goncharov, P. B. Radha, J. A. Marozas, S. Skupsky, T. R. Boehly, T. C. Sangster, D. D. Meyerhofer, and R. L. McCrory, "Two-Dimensional Simulations of the Neutron Yield in Cryogenic Deuterium-Tritium Implosions on OMEGA," Phys. Plasmas **17** (10), 102706 (2010).

1963. M. D. Skarlinski and S. D. Jacobs, "Modifying the Rheological Properties of Zirconia Coated Carbonyl Iron Suspensions through Acid-Base Titration and the Addition of Di-Ammonium Citrate," in *International Optical Design Conference (IODC)/Optical Fabrication and Testing (OF&T) Technical Digest on CD-ROM* (Optical Society of America, Washington, DC, 2010), paper JMB2.

1962. S. N. Shafrir, C. D. Roll, and P. D. Funkenbusch, "Optimization of Deterministic Microgrinding (DMG) Conditions for Optical Glasses and Ceramics," in *International Optical Design Conference (IODC)/Optical Fabrication and Testing (OF&T) Technical Digest on CD-ROM* (Optical Society of America, Washington, DC, 2010), paper OWD4.

1961. W. Theobald, V. Ovchinnikov, S. Ivancic, B. Eichman, P. M. Nilson, J. A. Delettrez, R. Yan, G. Li, F. J. Marshall, D. D. Meyerhofer, J. F. Myatt, C. Ren, T. C. Sangster, C. Stoeckl, J. D. Zuegel, L. Van Woerkom, R. R. Freeman, K. U. Akli, E. Giraldez, and R. B. Stephens, "High-Intensity Laser-Plasma Interaction with Wedge-Shaped-Cavity Targets," Phys. Plasmas **17** (10), 103101 (2010).

1960. J. B. Oliver, P. Kupinski, A. L. Rigatti, A. W. Schmid, J. C. Lambropoulos, S. Papernov, A. Kozlov, J. Spaulding, D. Sadowski, Z. R. Chrzan, R. D. Hand, D. R. Gibson, I. Brinkley, and F. Placido, "Large-Aperture Plasma-Assisted Deposition of Inertial Confinement Fusion Laser Coatings," Appl. Opt. **50** (9), C19–C26 (2010).

1959. C. Stoeckl, M. Cruz, V. Yu. Glebov, J. P. Knauer, R. Lauck, K. Marshall, C. Mileham, T. C. Sangster, and W. Theobald, "A Gated Liquid-Scintillator-Based Neutron Detector for Fast-Ignitor Experiments and Down-Scattered Neutron Measurements," Rev. Sci. Instrum. **81** (10), 10D302 (2010).

1958. F. J. Marshall, T. DeHaas, and V. Yu. Glebov, "Charge-Injection-Device Performance in the High-Energy-Neutron Environment of Laser-Fusion Experiments," Rev. Sci. Instrum. **81** (10), 10E503 (2010).

1957. E. Głowacki, K. Hunt, D. Abud, and K. L. Marshall, "Photoswitchable Gas Permeation Membranes Based on Azobenzene-Doped Liquid Crystals. II. Permeation-Switching

Characterization Under Variable Volume and Variable Pressure Conditions," Proc. SPIE **7775**, 77750G (2010).

1956. A. A. Solodov, M. Storm, J. F. Myatt, R. Betti, D. D. Meyerhofer, P. M. Nilson, W. Theobald, and C. Stoeckl, "Simulations of Electron-Beam Transport in Solid-Density Targets and the Role of Magnetic Collimation," J. Phys.: Conf. Ser. **244**, 022063 (2010).

1955. S. P. Regan, P. B. Radha, T. R. Boehly, T. Doeppner, K. Falk, S. H. Glenzer, V. N. Goncharov, G. Gregori, O. L. Landen, R. L. McCrory, D. D. Meyerhofer, P. Neumayer, T. C. Sangster, and V. A. Smalyuk, "Inferring the Electron Temperature and Density of Shocked Liquid Deuterium Using Inelastic X-Ray Scattering," J. Phys.: Conf. Ser. **244**, 042017 (2010).

1954. P. W. McKenty, R. S. Craxton, F. J. Marshall, T. C. Sangster, J. A. Marozas, A. M. Cok, M. J. Bonino, D. R. Harding, D. D. Meyerhofer, R. L. McCrory, J. D. Kilkenny, A. Nikroo, J. Fooks, M. L. Hoppe, J. M. Edwards, A. J. MacKinnon, D. H. Munro, and R. J. Wallace, "Design of High-Neutron-Yield, Polar-Drive Targets for Diagnostic Activation Experiments on the NIF," J. Phys.: Conf. Ser. **244**, 032054 (2010).

1953. D. D. Meyerhofer, J. Bromage, C. Dorrer, J. H. Kelly, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, S. F. B. Morse, J. F. Myatt, P. M. Nilson, J. Qiao, T. C. Sangster, C. Stoeckl, L. J. Waxer, and J. D. Zuegel, "Performance of and Initial Results from the OMEGA EP Laser System," J. Phys.: Conf. Ser. **244**, 032010 (2010).

1952. R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, J. P. Knauer, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, and D. T. Casey, "Progress in Cryogenic Target Implosions on OMEGA," J. Phys.: Conf. Ser. **244**, 012004 (2010).

1951. N. Marrocco, G. P. Pepe. A. Capretti, L. Parlato, V. Pagliarulo, G. Peluso, A. Barone, R. Cristiano, M. Ejrnaes, A. Casaburi, N. Kashiwazaki, T. Taino, H. Myoren, and R. Sobolewski, "Strong Critical Current Density Enhancement in NiCu/NbN Superconducting Nanostripes for Optical Detection," Appl. Phys. Lett. **97** (9), 092504 (2010).

1950. E. Głowacki, K. Horovitz, C. W. Tang, and K. L. Marshall, "Photoswitchable Gas Permeation Membranes Based on Liquid Crystals," Adv. Funct. Mater. **20**, 2778–2785 (2010).

1949. J. C. Lambropoulos, C. Miao, and S. D. Jacobs, "Magnetic Field Effects on Shear and Normal Stresses in Magnetorheological Finishing," Opt. Express **18** (19), 19,713–19,723 (2010).

1948. H. X. Vu, D. F. DuBois, D. A. Russell, and J. F. Myatt, "The Reduced-Description Particle-in-Cell Model for the Two Plasmon Decay Instability," Phys. Plasmas **17** (7), 072701 (2010).

1947. L. Zeng, C. W. Tang, and S. H. Chen, "Effects of Active Layer Thickness and Thermal Annealing on Polythiophene: Fullerene Bulk Heterojunction Photovoltaic Devices," Appl. Phys. Lett. **97** (5), 053305 (2010).

1946. L. Zeng, T. N. Blanton, and S. H. Chen, "Modulation of Phase Separation Between Spherical and Rodlike Molecules Using Geometric Surfactancy," Langmuir **26** (15), 12,877–12,881 (2010).

1945. J. Bromage, C. Dorrer, and J. D. Zuegel, "Angular-Dispersion-Induced Spatiotemporal Aberrations in Noncollinear Optical Parametric Amplifiers," Opt. Lett. **35** (13), 2251–2253 (2010).

1944. W. Guan and J. R. Marciante, "Single-Frequency Hybrid Brillouin/Ytterbium Fiber Laser with 1-W Output Power," in the *2010 Conference on Optical Fiber Communication and National Fiber Optic Engineers Conference* (IEEE, New York, 2010), Paper OThQ4.

1943. W. Guan and J. R. Marciante, "Power Scaling of Single-Frequency Hybrid Brillouin/Ytterbium Fiber Lasers," IEEE J. Quantum Electron. **46** (5), 674–682 (2010).

1942. L. Sun, S. Jiang, and J. R. Marciante, "All-Fiber Optical Faraday Mirror Using 56-wt%-Terbium-Doped Fiber," IEEE Photon. Technol. Lett. **22** (13), 999–1001 (2010).

1941. R. Yan, A. V. Maximov, and C. Ren, "The Linear Regime of the Two-Plasmon Decay Instability in Inhomogeneous Plasmas," Phys. Plasmas **17** (5), 052701 (2010).

1940. L. Sun, S. Jiang, and J. R. Marciante, "All-Fiber Optical Magnetic Field Sensor Based on Faraday Rotation," in the *2010 Conference on Optical Fiber Communication and National Fiber Optic Engineers Conference* (IEEE, New York, 2010), Paper OWL3.

1939. S. X. Hu, B. Militzer, V. N. Goncharov, and S. Skupsky, "Strong Coupling and Degeneracy Effects in Inertial Confinement Fusion Implosions," Phys. Rev. Lett. **104** (23), 235003 (2010).

1938. R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. Betti, T. R. Boehly, M. J. Bonino, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. H. Kelly, T. J. Kessler, J. P. Knauer, L. D. Lund, D. Jacobs-Perkins, J. R. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. G. Noyes, P. B. Radha, A. Rigatti, T. C. Sangster, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, K. A. Thorp, L. J. Waxer, M. D. Wittman, B. Yaakobi, J. D. Zuegel, K. A. Fletcher, C. Freeman, S. Padalino, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Direct-Drive Inertial Fusion Research at the University of Rochester's Laboratory for Laser Energetics: A Review," in *Current Trends in International Fusion Research—Proceedings of the Sixth Symposium*, edited by E. Panarella and R. Raman (NRC Research Press, Ottawa, Canada, 2009), pp. 155–176.

1937. L. Sun, S. Jiang, and J. R. Marciante, "Compact All-Fiber Optical Faraday Components Using 65-wt%-Terbium–Doped Fiber with a Record Verdet Constant of –32 rad/(Tm)," Opt. Express **18** (12), 12,191–12,196 (2010).

1936. J. R. Marciante, R. G. Roides, V. V. Shkunov, and D. A. Rockwell, "Near-Diffraction-Limited Operation of Step-Index Large-Mode-Area Fiber Lasers Via Gain Filtering," Opt. Lett. **35** (11), 1828–1830 (2010).

1935. S. X. Hu, "Optimizing the FEDVR-TDCC Code for Exploring the Quantum Dynamics of Two-Electron Systems in Intense Laser Pulses," Phys. Rev. E **81** (5), 056705 (2010).

1934. T. B. Jones, R. Gram, K. Kentch, and D. R. Harding, "Capillarity and Dielectrophoresis of Liquid Deuterium," J. Phys. D: Appl. Phys. **42**, 225505 (2009).

1933. J. Qiao, A. W. Schmid, L. J. Waxer, T. Nguyen, J. Bunkenburg, C. Kingsley, A. Kozlov, and D. Weiner, "*In Situ* Detection and Analysis of Laser-Induced Damage on a 1.5-m Multilayer-Dielectric Grating Compressor for High-Energy, Petawatt-Class Laser Systems," Opt. Express **18** (10), 10,423–10,431 (2010).

1932. J. P. Knauer, O. V. Gotchev, P. Y. Chang, D. D. Meyerhofer, O. Polomarov, R. Betti, J. A. Frenje, C. K. Li, M. J.-E. Manuel, R. D. Petrasso, J. R. Rygg, and F. H. Séguin, "Compressing Magnetic Fields with High-Energy Lasers," Phys. Plasmas **17** (5), 056318 (2010) (invited).

1931. Z. Bei, T. B. Jones, and D. R. Harding, "Electric Field Centering of Double-Emulsion Droplets Suspended in a Density Gradient," Soft Matter **6**, 2312–2320 (2010).

1930. P. M. Nilson, S. P. D. Mangles, L. Willingale, M. C. Kaluza, A. G. R. Thomas, M. Tatarakis, R. J. Clarke, K. L. Lancaster, S. Karsch, J. Schreiber, Z. Najmudin, A. E. Dangor, and K. Krushelnick, "Plasma Cavitation in Ultraintense Laser Interactions with Underdense Helium Plasmas," New J. Phys. **12**, 045014 (2010).

1929. H. Irie and R. Sobolewski, "Terahertz Electrical Response of Nanoscale Three-Branch Junctions," J. Appl. Phys. **107** (8), 084315 (2010).

1928. T. C. Sangster, V. N. Goncharov, R. Betti, T. R. Boehly, D. T. Casey, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, J. A. Frenje, V. Yu. Glebov, D. R. Harding, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, S. J. Loucks, C. K. Li, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. M. Nilson, S. P. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, F. H. Seguin, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, W. Theobald, and B. Yaakobi, "Shock-Tuned Cryogenic-Deuterium-Tritium Implosion Performance on Omega," Phys. Plasmas **17** (5), 056312 (2010) (invited).

1927. C. Dorrer and J. Bromage, "High-Sensitivity Optical Pulse Characterization Using Sagnac Electro-Optic Spectral Shearing Interferometry," Opt. Lett. **35** (9), 1353–1355 (2010).

1926. R. Betti, P. Y. Chang, B. K. Spears, K. S. Anderson, J. Edwards, M. Fatenejad, J. D. Lindl, R. L. McCrory, R. Nora, and D. Shvarts, "Thermonuclear Ignition in Inertial Confinement Fusion and Comparison with Magnetic Confinement," Phys. Plasmas **17** (5), 058102 (2010) (invited).

1925. J. E. Schoenly, W. Seka, and P. Rechmann, "Selective Near-UV Ablation of Subgingival Dental Calculus: Measurement of Removal Rates," Proc. SPIE **7549**, 754906 (2010).

1924. V. A. Smalyuk, R. Betti, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, J. Sanz, W. Seka, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Implosion Experiments using Glass Ablators for Direct-Drive Inertial Confinement Fusion," Phys. Rev. Lett. **104** (16), 165002 (2010).

1923. V. N. Goncharov, T. C. Sangster, T. R. Boehly, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, C. Stoeckl, D. T. Casey, J. A. Frenje, and R. D. Petrasso, "Demonstration of the Highest Deuterium-Tritium Areal Density Using Multiple-Picket Cryogenic Designs on OMEGA," Phys. Rev. Lett. **104** (16), 165001 (2010).

1922. S.-W. Bahk, E. Fess, B. E. Kruschwitz, and J. D. Zuegel, "A High-Resolution, Adaptive Beam-Shaping System for High-Power Lasers," Opt. Express **18** (9), 9151–9163 (2010).

1921. R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. E. Bahr, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, W. R. Donaldson, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, T. J. Kessler, J. D. Kilkenny, J. P. Knauer, C. K. Li, L. D. Lund, J. A. Marozas, P. W. McKenty, F. J. Marshall, S. F. B. Morse, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, K. A. Thorp, B. Yaakobi, and J. D. Zuegel, "Direct-Drive Inertial Fusion Research at the University of Rochester's Laboratory for Laser Energetics: A Review," in *Current Trends in International Fusion Research—Proceedings of the Fifth Symposium*, edited by E. Panarella and R. Raman (NRC Research Press, Ottawa, Canada, 2008), pp. 267–277.

1920. C. Miao, J. C. Lambropoulos, and S. D. Jacobs, "Process Parameter Effects on Material Removal in Magnetorheological Finishing of Borosilicate Glass," Appl. Opt. **49** (10), 1951–1963 (2010).

1919. M. A. Barrios, D. G. Hicks, T. R. Boehly, D. E. Fratanduono, J. H. Eggert, P. M. Celliers, G. W. Collins, and D. D. Meyerhofer, "High-Precision Measurements of the Equation of State of Hydrocarbons at 1–10 Mbar Using Laser-Driven Shock Waves," Phys. Plasmas **17** (5), 056307 (2010) (invited).

1918. P. Y. Chang, R. Betti, B. K. Spears, K. S. Anderson, J. Edwards, M. Fatenejad, J. D. Lindl, R. L. McCrory, R. Nora, and D. Shvarts, "Generalized Measurable Ignition Criterion for Inertial Confinement Fusion," Phys. Rev. Lett. **104** (13), 135002 (2010).

1917. T. R. Boehly, R. E. Olson, P. M. Celliers, D. H. Munro, W. Seka, O. L. Landen, G. W. Collins, L. J. Suter, T. C. Sangster, and D. D. Meyerhofer, "The Effect of Condensates and Inner Coatings on the Performance of Vacuum Hohlraum Targets," Phys. Plasmas **17** (3), 032701 (2010).

1916. A. M. Kaplan, G. P. Agrawal, and D. N. Maywar, "Optical Square-Wave Clock Generation Based on an All-Optical Flip-Flop," IEEE Photon. Technol. Lett. **22** (7), 489–491 (2010).

1915. A. V. Okishev, "Optical Differentiation and Multimillijoule ~150 ps Pulse Generation in a Regenerative Amplifier with a Temperature-Tuned Intracavity Volume Bragg Grating," Appl. Opt. **49** (8), 1331–1334 (2010).

1914. L. Sun, S. Jiang, and J. R. Marciante, "All-Fiber Optical Magnetic-Field Sensor Based on Faraday Rotation in Highly Terbium-Doped Fiber," Opt. Express **18** (6), 5407–5412 (2010).

1913. J. E. Schoenly, W. Seka, and P. Rechmann, "Investigation Into the Optimum Beam Shape and Fluence for Selective Ablation of Dental Calculus at λ = 400 nm," Lasers Surg. Med. **42**, 51–61 (2010).

1912. L. Sun, S. Jiang, J. D. Zuegel, and J. R. Marciante, "All-Fiber Optical Isolator Based on Faraday Rotation in Highly Terbium-Doped Fiber," Opt. Lett. **35** (5), 706–708 (2010).

1911. S. P. Regan, N. B. Meezan, L. J. Suter, D. J. Strozzi, W. L. Kruer, D. Meeker, S. H. Glenzer, W. Seka, C. Stoeckl, V. Yu. Glebov, T. C. Sangster, D. D. Meyerhofer, R. L. McCrory, E. A. Williams, O. S. Jones, D. A. Callahan, M. D. Rosen, O. L. Landen, C. Sorce, and B. J. MacGowan, "Suprathermal Electrons Generated by the Two-Plasmon-Decay Instability in Gas-Filled *Hohlraums*," Phys. Plasmas **17** (2), 020703 (2010).

1910. S. N. Shafrir, H. Romanofsky, M. Skarlinski, M. Wang, C. Miao, S. Salzman, T. Chartier, J. Mici, J. C. Lambropoulos, R. Shen, H. Yang, and S. D. Jacobs, "Zirconia Coated Carbonyl Iron Particle-Based Magnetorheological Fluid for Polishing," Proc. SPIE **7426**, 74260B (2009).

1909. C. Miao, J. C. Lambropoulos, H. Romanofsky, S. N. Shafrir, and S. D. Jacobs, "Contributions of Nanodiamond Abrasives and Deionized Water in Magnetorheological Finishing of Aluminum Oxynitride," Proc. SPIE **7426**, 74260D (2009).

1908. C. Miao, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Normal Force and Drag Force in Magnetorheological Finishing," Proc. SPIE **7426**, 74260C (2009).

1907. P. M. Nilson, W. Theobald, J. F. Myatt, C. Stoeckl, J. D. Zuegel, R. Betti, D. D. Meyerhofer, and T. C. Sangster, "X-Ray Spectroscopy of Solid-Density Plasmas in High-Intensity Laser Interactions," in *Atomic Processes in Plasmas*, edited by K. B. Fournier (American Institute of Physics, New York, NY, 2009), Vol. 1161, pp. 17–23.

1906. R. Shen, S. N. Shafrir, C. Miao, M. Wang, J. C. Lambropoulos, S. D. Jacobs, and H. Yang, "Synthesis and Corrosion Study of Zirconia-Coated Carbonyl Iron Particles," J. Colloid and Interface Sci. **342**, 49–56 (2010).

1905. W. R. Donaldson, J. R. Marciante, and R. G. Roides, "An Optical Replicator for Single-Shot Measurements at 10 GHz With a Dynamic Range of 1800:1," IEEE J. Quantum Electron. **46** (2), 191–196 (2010).

1904. P. M. Nilson, S. P. D. Mangles, L. Willingale, M. C. Kaluza, A. G. R. Thomas, M. Tatarakis, Z. Najmudin, R. J. Clarke, K. L. Lancaster, S. Karsch, J. Schreiber, R. G.

Evans, A. E. Dangor, and K. Krushelnick, "Generation of Ultrahigh-Velocity Ionizing Shocks with Petawatt-Class Laser Pulses," Phys. Rev. Lett. **103** (25), 255001 (2009).

1903. G. P. Cox, K. L. Marshall, J. C. Lambropoulos, M. Leitch, C. Fromen, and S. D. Jacobs, "Modeling the Effects of Microencapsulation on the Electro-Optic Behavior of Polymer Cholesteric Liquid Crystal Flakes," J. Appl. Phys. **106** (12), 124911 (2009).

1902. S. N. Shafrir, H. J. Romanofsky, M. Skarlinski, M. Wang, C. Miao, S. Salzman, T. Chartier, J. Mici, J. C. Lambropoulos, R. Shen, H. Yang, and S. D. Jacobs, "Zirconia-Coated Carbonyl-Iron-Particle-Based Magnetorheological Fluid for Polishing Optical Glasses and Ceramics," Appl. Opt. **48** (35), 6797–6810 (2009).

1901. W. Guan and J. R. Marciante, "Single-Frequency 1 W Hybrid Brillouin/Ytterbium Fiber Laser," Opt. Lett. **34** (20), 3131–3132 (2009).

1900. O. V. Gotchev, P. Y. Chang, J. P. Knauer, D. D. Meyerhofer, O. Polomarov, J. Frenje, C. K. Li, M. J.-E. Manuel, R. D. Petrasso, J. R. Rygg, F. H. Séguin, and R. Betti, "Laser-Driven Magnetic-Flux Compression in High-Energy-Density Plasmas," Phys. Rev. Lett. **103** (21), 215004 (2009).

1899. L. Zeng, T. Y.-H. Lee, P. B. Merkel, and S. H. Chen, "A New Class of Non-Conjugated Bipolar Hybrid Hosts for Phosphorescent Organic Light-Emitting Diodes," J. Mater. Chem. **19**, 8772–8781 (2009).

1898. W. Theobald, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, J. A. Frenje, V. Yu. Glebov, O. V. Gotchev, J. H. Kelly, C. K. Li, A. J. Mackinnon, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, J. F. Myatt, P. A. Norreys, P. M. Nilson, P. K. Patel, R. D. Petrasso, P. B. Radha, C. Ren, T. C. Sangster, W. Seka, V. A. Smalyuk, A. A. Solodov, R. B. Stephens, C. Stoeckl, and B. Yaakobi, "Advanced-Ignition-Concept Exploration on OMEGA," Plasma Phys. Control. Fusion **51**, 124052 (2009).

1897. S. P. Regan, B. Yaakobi, T. R. Boehly, R. Epstein, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, V. A. Smalyuk, J. Soures, C. Stoeckl, R. C. Mancini, D. A. Haynes, Jr., L. Welser-Sherrill, J. A. Koch, R. Tommasini, and H. Sawada, "Applied Plasma Spectroscopy: Laser-Fusion Experiments," High Energy Density Phys. **5**, 234–243 (2009).

1896. S. X. Hu, P. B. Radha, J. A. Marozas, R, Betti, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, S. Skupsky, V. A. Smalyuk, Y. Elbaz, and D. Shvarts, "Neutron Yield Study of Direct-Drive, Low-Adiabat Cryogenic D_2 Implosions on OMEGA Laser System," Phys. Plasmas **16** (11), 112706 (2009).

1895. E. Glowacki, K. L. Marshall, and C. W. Tang, "Photoswitchable Gas Permeation Membranes Based on Azobenzene-Doped Liquid Crystals," Proc. SPIE **7414**, 74140H (2009).

1894. V. A. Smalyuk, S. X. Hu, J. D. Hager, J. A. Delettrez, D. D. Meyerhofer, T. C. Sangster, and D. Shvarts, "Spherical Rayleigh–Taylor Growth of Three-Dimensional Broadband Perturbations on OMEGA," Phys. Plasmas **16** (11), 112701 (2009).

1893. B. Yaakobi, O. V. Gotchev, R. Betti, and C. Stoeckl, "Study of Fast-Electron Transport in Laser-Illuminated Spherical Targets," Phys. Plasmas **16** (10), 102703 (2009).

1892. I. V. Igumenshchev, "Magnetic Inversion as a Mechanism for the Spectral Transition of Black Hole Binaries," Astrophys. J. **702** (1), L72–L76 (2009).

1891. B. Punsly, I. V. Igumenshchev, and S. Hirose, "Three-Dimensional Simulations of Vertical Magnetic Flux in the Immediate Vicinity of Black Holes," Astrophys. J. **704** (2), 1065–1085 (2009).

1890. V. A. Smalyuk, S. X. Hu, J. D. Hager, J. A. Delettrez, D. D. Meyerhofer, T. C. Sangster, and D. Shvarts, "Rayleigh-Taylor Growth Measurements in the Acceleration Phase of Spherical Implosions on OMEGA," Phys. Rev. Lett. **103** (10), 105001 (2009).

1889. S. X. Hu, L. A. Collins, and B. I. Schneider, "Attosecond Photoelectron Microscopy of H_2^+," Phys. Rev. A **80** (2), 023426 (2009).

1888. A. V. Okishev, D. Westerfeld, L. Shterengas, and G. Belenky, "A Stable Mid-IR, GaSb-Based Diode Laser Source for the Cryogenic Target Layering at the Omega Laser Facility," Opt. Express **17** (18), 15,790–15,765 (2009).

1887. A. Belousov, S. Katrych, J. Jun, J. Zhang, D. Günther, R. Sobolewski, J. Karpinski, and B. Batlogg, "Bulk Single-Crystal Growth of the Ternary $Al_xGa_{1-x}N$ from Solution in Gallium Under High Pressure," J. Cryst. Growth **311**, 3971–3974 (2009).

1886. W. Theobald, C. Stoeckl, P. A. Jaanimagi, P. M. Nilson, M. Storm, D. D. Meyerhofer, T. C. Sangster, D. Hey, A. J. MacKinnon, H.-S. Park, P. K. Patel, R. Shepherd, R. A. Snavely, M. H. Key, J. A. King, B. Zhang, R. B. Stephens, K. U. Akli, K. Highbarger, R. L. Daskalova, L. Van Woerkom, R. R. Freeman, J. S. Green, G. Gregori, K. Lancaster, and P. A. Norreys, "A Dual-Channel, Curved-Crystal Spectrograph for Petawatt Laser, X-Ray Backlighter Source Studies," Rev. Sci. Instrum. **80** (8), 083501 (2009).

1885. G. Guarino, W. R. Donaldson, M. Mikulics, M. Marso, P. Kordoš, and R. Sobolewski, "Finite Element Simulation of Metal–Semiconductor–Metal Photodetector," Solid-State Electron. **53**, 1144–1148 (2009).

1884. J. Sanz, R. Betti, V. A. Smalyuk, M. Olazabal-Loume, V. Drean, V. Tikhonchuk, X. Ribeyre, and J. Feugeas, "Radiation Hydrodynamic Theory of Double Ablation Fronts in Direct-Drive Inertial Confinement Fusion," Phys. Plasmas **16** (8), 082704 (2009).

1883. I. V. Igumenshchev, F. J. Marshall, J. A. Marozas, V. A. Smalyuk, R. Epstein, V. N. Goncharov, T. J. B. Collins, T. C. Sangster, and S. Skupsky, "The Effects of Target Mounts in Direct-Drive Implosions on OMEGA," Phys. Plasmas **16** (8), 082701 (2009).

1882. C. Dorrer, "High-Damage-Threshold Beam Shaping Using Binary Phase Plates," Opt. Lett. **34** (15), 2330–2332 (2009).

1881. J. E. Schoenly, W. Seka, and P. Rechmann, "Laser Ablation of Dental Calculus at 400 nm Using a Ti:Sapphire Laser," Proc. SPIE **7162**, 71620E (2009).

1880. B. Ciftcioglu, L. Zhang, J. Zhang, J. R. Marciante, J. Zuegel, R. Sobolewski, and H. Wu, "Integrated Silicon PIN Photodiodes Using Deep N-Well in a Standard 0.18-μm CMOS Technology," J. Lightwave Technol. **27** (15), 3303–3313 (2009).

1879. J. Myatt, J. A. Delettrez, A. V. Maximov, D. D. Meyerhofer, R. W. Short, C. Stoeckl, and M. Storm, "Optimizing Electron-Positron Pair Production on Kilojoule-Class High-Intensity Lasers for the Purpose of Pair-Plasma Creation," Phys. Rev. E **79**(6), 066409 (2009).

1878. G. P. Pepe, D. Pan, V. Pagliarulo, L. Parlato, N. Marrocco, C. De Lisio, G. Peluso, A. Barone, U. Scotti di Uccio, A. Casaburi, F. Tafuri, M. Khafizov, T. Taneda, and R. Sobolewski, "Ultrafast Photoresponse of Superconductor/Ferromagnet Nano-Layered Hybrids," IEEE Trans. Appl. Supercond. **19** (3), 376–381 (2009).

1877. J. Kitaygorsky, S. Dorenbos, E. Reiger, R. Schouten, V. Zwiller, and R. Sobolewski, "HEMT-Based Readout Technique for Dark- and Photon-Count Studies in NbN Superconducting Single-Photon Detectors," IEEE Trans. Appl. Supercond. **19** (3), 346–349 (2009).

1876. X. L. Cross, X. Zheng, P. D. Cunningham, L. M. Hayden, Š. Chromik, M. Sojkova, V. Štrbík, P. Odier, and R. Sobolewski, "Pulsed-THz Characterization of Hg-Based, High-Temperature Superconductors," IEEE Trans. Appl. Supercond. **19** (3), 3614–3617 (2009).

1875. L. Zeng, F. Yan, S. K.-H. Wei, S. W. Culligan, and S. H. Chen, "Synthesis and Processing of Monodisperse Oligo(fluorine-*co*-bithiophene)s into Oriented Films by Thermal and Solvent Annealing," Adv. Funct. Mater. **19**, 1978–1986 (2009).

1874. M. Storm, A. A. Solodov, J. F. Myatt, D. D. Meyerhofer, C. Stoeckl, C. Mileham, R. Betti, P. M. Nilson, T. C. Sangster, W. Theobald, and C. Guo, "High-Current, Relativistic Electron-Beam Transport in Metals and the Role of Magnetic Collimation," Phys. Rev. Lett. **102** (23), 235004 (2009).

1873. J. D. Zuegel, S.-W. Bahk, J. Bromage, C. Dorrer, R. Earley, T. J. Kessler, B. J. Kruschwitz, S. F. B. Morse, D. N. Maywar, J. B. Oliver, J. Qiao, A. L. Rigatti, A. W. Schmid, M. J. Shoup III, L. J. Waxer, and J. H. Kelly, "Novel Laser and Diagnostic Technologies for the OMEGA EP High-Energy Petawatt Laser," Rev. Laser Eng. **37** (6), 437–442 (2009).

1872. L. Sun, S. Jiang, J. D. Zuegel, and J. R. Marciante, "Effective Verdet Constant in a Terbium-Doped-Core Phosphate Fiber," Opt. Lett. **34** (11), 1699–1701 (2009).

1871. W. Seka, D. H. Edgell, J. F. Myatt, A. V. Maximov, R. W. Short, V. N. Goncharov, and H. A. Baldis, "Two-Plasmon-Decay Instability in Direct-Drive Inertial Confinement Fusion Experiments," Phys. Plasmas **16** (5), 052701 (2009).

1870. H. Sawada, S. P. Regan, P. B. Radha, R. Epstein, D. Li, V. N. Goncharov, S. X. Hu, D. D. Meyerhofer, J. A. Delettrez, P. A. Jaanimagi, V. A. Smalyuk, T. R. Boehly, T. C. Sangster, B. Yaakobi, and R. C. Mancini, "Al 1*s*-2*p* Absorption Spectroscopy of Shock-Wave Heating and Compression in Laser-Driven Planar Foil," Phys. Plasmas **16** (5), 052702 (2009).

1869. F. J. Marshall, P. W. McKenty, J. A. Delettrez, R. Epstein, J. P. Knauer, V. A. Smalyuk, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, and R. C. Mancini, "Plasma-Density Determination from X-Ray Radiography of Laser-Driven Spherical Implosions," Phys. Rev. Lett. **102** (18), 185004 (2009).

1868. V. N. Goncharov, "Ablative Richtmyer-Meshkov Instability: Theory and Experimental Results," in *Laser-Plasma Interactions*, edited by D. A. Jaroszynski, R. Bingham, and R. A. Cairns, Scottish Graduate Series (CRC Press, Boca Raton, FL, 2009), pp. 419–427.

1867. V. N. Goncharov, "Direct-Drive Inertial Fusion: Basic Concepts and Ignition Target Designing," in *Laser-Plasma Interactions*, edited by D. A. Jaroszynski, R. Bingham, and R. A. Cairns, Scottish Graduate Series (CRC Press, Boca Raton, FL, 2009), pp. 409–418.

1866. C. Miao, S. N. Shafrir, J. C. Lambropoulos, J. Mici, and S. D. Jacobs, "Shear Stress in Magnetorheological Finishing for Glasses," Appl. Opt. **48** (13), 2585–2594 (2009).

1865. A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. Myatt, J. A. Delettrez, S. Skupsky, W. Theobald, and C. Stoeckl, "Integrated Simulations of Implosion, Electron Transport, and Heating for Direct-Drive Fast-Ignition Targets," Phys. Plasmas **16** (5), 056309 (2009).

1864. E. I. Moses, R. L. McCrory, D. D. Meyerhofer, and C. J. Keane, "A New Era for High-Energy-Density Physics," Opt. Photonics News **20** (5), 42–47 (2009).

1863. Z. Jiang and J. R. Marciante, "Comments on 'Beam Quality Factor of Higher Order Modes in a Step-Index Fiber,' " J. Lightwave Technol. **27** (9), 1236 (2009).

1862. O. V. Gotchev, J. P. Knauer, P. Y. Chang, N. W. Jang, M. J. Shoup III, D. D. Meyerhofer, and R. Betti, "Seeding Magnetic Fields for Laser-Driven Flux Compression in High-Energy-Density Plasmas," Rev. Sci. Instrum. **80** (4), 043504 (2009).

1861. Y. Zhu, J. D. Zuegel, J. R. Marciante, and H. Wu, "Distributed Waveform Generator: A New Circuit Technique for Ultra-Wideband Pulse Generation, Shaping and Modulation," IEEE J. Solid-State Circuits **44** (3), 808–823 (2009).

1860. S. Papernov and A. W. Schmid, "Laser-Induced Surface Damage of Optical Materials: Absorption Sources, Initiation, Growth, and Mitigation," Proc. SPIE **7132**, 71321J (2008).

1859. J. B. Oliver, S. Papernov, A. W. Schmid, and J. C. Lambropoulos, "Optimization of Laser-Damage Resistance of Evaporated Hafnia Films at 351 nm," Proc. SPIE **7132,** 71320J (2008).

1858. H. Chen, S. C. Wilks, J. D. Bonlie, E. P. Liang, J. Myatt, D. F. Price, D. D. Meyerhofer, and P. Beiersdorfer, "Relativistic Positron Creation Using Ultraintense Short Pulse Lasers," Phys. Rev. Lett. **102** (10), 105001 (2009).

1857. C. K. Li, F. H. Séguin, J. A. Frenje, M. Manuel, D. Casey, N. Sinenian, R. D. Petrasso, P. A. Amendt, O. L. Landen, J. R. Rygg, R. P. J. Town, R. Betti, J. Delettrez, J. P. Knauer, F. Marshall, D. D. Meyerhofer, T. C. Sangster, D. Shvarts, V. A. Smalyuk, J. M. Soures, C. A. Back, J. D. Kilkenny, and A. Nikroo, "Proton Radiography of Dynamic Electric and Magnetic Fields in Laser-Produced High-Energy-Density Plasmas," Phys. Plasmas **16** (5), 056304 (2009) (invited).

1856. W. Guan and J. R. Marciante, "Complete Elimination of Self-Pulsations in Dual-Clad Ytterbium-Doped Fiber Lasers at All Pumping Levels," Opt. Lett. **34** (6), 815–817 (2009).

1855. C. Dorrer, "Signal Analyser on an Optical Chip," Nat. Photon. **3**, 136–137 (2009).

1854. C. Dorrer, "Statistical Analysis of Incoherent Pulse Shaping," Opt. Express **17** (5), 3341–3352 (2009).

1853. J. A. King, K. U. Akli, R. R. Freeman, J. Green, S. P. Hatchett, D. Hey, P. Jaanimagi, M. H. Key, J. Koch, K. L. Lancaster, T. Ma, A. J. MacKinnon, A. MacPhee, P. A. Norreys, P. K. Patel, T. Phillips, R. B. Stephens, W. Theobald, R. P. J. Town, L. Van Woerkom, B. Zhang, and F. N. Beg, "Studies on the Transport of High Intensity Laser-Generated Hot Electrons in Cone Coupled Wire Targets," Phys. Plasmas **16** (2), 020701 (2009).

1852. V. A. Smalyuk, R. Betti, T. R. Boehly, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. X. Hu, J. P. Knauer, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, D. Shvarts, S. Skupsky, J. M. Soures, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Cryogenic-Target Performance and Implosion Physics Studies on OMEGA," Phys. Plasmas **16** (5), 056301 (2009) (invited).

1851. T. R. Boehly, D. Munro, P. M. Celliers, R. E. Olson, D. G. Hicks, V. N. Goncharov, G. W. Collins, H. F. Robey, S. X. Hu, J. A. Marozas, T. C. Sangster, O. L. Landen, and D. D. Meyerhofer, "Demonstration of the Shock-Timing Technique for Ignition Targets on the National Ignition Facility," Phys. Plasmas **16** (5), 056302 (2009) (invited).

1850. S. K. H. Wei, S. H. Chen, K. Dolgaleva. S. G. Lukishova, and R. W. Boyd, "Robust Organic Lasers Comprising Glassy-Cholesteric Pentafluorene Doped with a Red-Emitting Oligofluorene," Appl. Phys. Lett. **94** (4), 041111 (2009).

1849. P. M. Nilson, W. Theobald, J. F. Myatt, C. Stoeckl, M. Storm, J. D. Zuegel, R. Betti, D. D. Meyerhofer, and T. C. Sangster, "Bulk Heating of Solid-Density Plasmas During High-Intensity-Laser Plasma Interactions," Phys. Rev. E **79** (1), 016406 (2009).

1848. J. R. Marciante, "Gain Filtering for Single-Spatial-Mode Operation of Large-Mode-Area Fiber Amplifiers," IEEE J. Sel. Top. Quantum Electron. **15** (1), 30–36 (2009).

1847. A. M. Kaplan, G. P. Agrawal, and D. N. Maywar, "All-Optical Flip-Flop Operation of VCSOA," Electron. Lett. **45** (2), 127–128 (2009).

1846. A. Trajkovska Petkoska and S. D. Jacobs, "Effect of Different Dopants on Polymer Cholesteric Liquid Crystal Flakes," Mol. Cryst. Liq. Cryst. **495**, 334–347 (2008).

1845. S. N. Shafrir, S. D. Jacobs, S. Adar, C. Miao, H. Romanofsky, and J. C. Lambropoulos, "Drag Force and Surface Texture in Material Removal with MRF on Optical Glass and Hard Ceramics," in the *Proceedings of the 12th DoD Electromagnetic Windows Symposium* (U.S. Army Research, Development, and Engineering Center, Redstone Arsenal, AL, 2008), pp. 1–23.

1844. B. Ciftcioglu, J. Zhang, L. Zhang, J. R. Marciante, J. D. Zuegel, R. Sobolewski, and H. Wu, "3-GHz Silicon Photodiodes Integrated in a 0.18-mm CMOS Technology, " IEEE Photon. Technol. Lett. **20** (24), 2069–2071 (2008).

1843. S.-W. Bahk, J. D. Zuegel, J. R. Fienup, C. C. Widmayer, and J. Heebner, "Spot-Shadowing Optimization to Mitigate Damage Growth in a High-Energy-Laser Amplifier Chain," Appl. Opt. **47** (35), 6586–6593 (2008).

1842. C. Kim, K. L. Marshall, J. U. Wallace, and S. H. Chen, "Photochromic Glassy Liquid Crystals Comprising Mesogenic Pendants to Dithienylethene Cores," J. Mater. Chem. **18**, 5592–5598 (2008).

1841. B. Ashe, K. L. Marshall, D. Mastrosimone, and C. McAtee, "Minimizing Contamination to Multilayer Dielectric Diffraction Gratings Within a Large Vacuum System," Proc. SPIE **7069**, 706902 (2008).

1840. C. Stoeckl, K. S. Anderson, R. Betti, T. R. Boehly, J. A. Delettrez, J. A. Frenje, V. N. Goncharov, V. Yu. Glebov, J. H. Kelly, A. J. MacKinnon, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, J. F. Myatt, P. A. Norreys, P. M. Nilson, R. D. Petrasso, T. C. Sangster, A. A. Solodov, R. B. Stephens, M. Storm, W. Theobald, B. Yaakobi, L. J. Waxer, and C. D. Zhou, "Fast-Ignition Target Design and Experimental-Concept Validation on OMEGA," Plasma Phys. Control. Fusion **50**, 124044 (2008) (invited).

1839. D. Pan, G. P. Pepe, V. Pagliarulo, C. De Lisio, L. Parlato, M. Khafizov, I. Komissarov, and R. Sobolewski, "Layered Ferromagnet/Superconductor Heterostructures: Nonequilibrium Quasiparticle Dynamics and Photodetector Applications," Phys. Rev. B **78** (17), 174503 (2008).

1838. M. Storm, I. A. Begishev, R. J. Brown, C. Guo, D. D. Meyerhofer, C. Mileham, J. F. Myatt, P. M. Nilson, T. C. Sangster, C. Stoeckl, W. Theobald, and J. D. Zuegel, "A High-

Resolution Coherent Transition Radiation Diagnostic for Laser-Produced Electron Transport Studies," Rev. Sci. Instrum. **79** (10), 10F503 (2008) (invited).

1837. J. L. Bourgade, P. Troussel, A. Casner, G. Huser, T. C. Sangster, G. Pien, F. J. Marshall, J. Fariaud, C. Redmond, D. Gontier, C. Chollet, C. Zuber, C. Reverdin, A. Richard, P. A. Jaanimagi, R. L. Keck, R. E. Bahr, W. J. Armstrong, J. Dewandel, R. Maroni, F. Aubard, B. Angelier, C. Y. Cote, and S. Magnan, "A Versatile High-Resolution X-Ray Imager (HRXI) for Laser-Plasma Experiments on OMEGA," Rev. Sci. Instrum. **79** (10), 10E904 (2008).

1836. V. Yu. Glebov, M. Moran, C. Stoeckl, T. C. Sangster, and M. Cruz, "Neutron Bang Time Detector Based on a Light Pipe," Rev. Sci. Instrum. **79** (10), 10E528 (2008).

1835. Z. A. Ali, V. Yu. Glebov, M. Cruz, T. Duffy, C. Stoeckl, S. Roberts, T. C. Sangster, R. Tommasini, A. Throop, M. Moran, L. Dauffy, and C. Horsefield, "Tests and Calibration of NIF Neutron Time of Flight Detectors," Rev. Sci. Instrum. **79** (10), 10E527 (2008).

1834. Z.-M. Bei, T. B. Jones, A. Tucker-Schwartz, and D. R. Harding, "Electric Field Mediated Droplet Centering," Appl. Phys. Lett. **93** (18), 184101 (2008).

1833. C. D. Zhou and R. Betti, "A Measurable Lawson Criterion and Hydro-Equivalent Curves for Inertial Confinement Fusion," Phys. Plasmas **15** (10), 102707 (2008).

1832. A. A. Solodov, K. S. Anderson, R. Betti, V. Gotcheva, J. Myatt, J. A. Delettrez, S. Skupsky, W. Theobald, and C. Stoeckl, "Simulations of Electron Transport and Ignition for Direct-Drive Fast-Ignition Targets," Phys. Plasmas **15** (11), 112702 (2008).

1831. K. L. Marshall, J. Gan, G. Mitchell, S. Papernov, A. L. Rigatti, A. W. Schmid, and S. D. Jacobs, "Laser-Damage-Resistant Photoalignment Layers for High-Peak-Power Liquid Crystal Device Applications," Proc. SPIE **7050**, 70500L (2008).

1830. D. H. Edgell, W. Seka, R. E. Bahr, T. R. Boehly, and M. J. Bonino, "Effectiveness of Silicon as a Laser Shinethrough Barrier for 351-nm Light," Phys. Plasmas **15** (9), 092704 (2008).

1829. J. Bromage, S.-W. Bahk, D. Irwin, J. Kwiatkowski, A. Pruyne, M. Millecchia, M. Moore, and J. D. Zuegel, "A Focal-Spot Diagnostic for On-Shot Characterization of High-Energy Petawatt Lasers," Opt. Express **16** (21), 16,561–16,572 (2008).

1828. S. Papernov and A. W. Schmid, "Testing Asymmetry in Plasma-Ball Growth Seeded by a Nanoscale Absorbing Defect Embedded in a SiO_2 Thin-Film Matrix Subjected to UV Pulsed-Laser Radiation," J. Appl. Phys. **104** (6), 063101 (2008).

1827. M. J. Guardalben, "Littrow Angle Method to Remove Alignment Errors in Grating Pulse Compressors," Appl. Opt. **47** (27), 4959–4964 (2008).

1826. C. Kim, K. L. Marshall, J. U. Wallace, J. J. Ou, and S. H. Chen, "Novel Cholesteric Glassy Liquid Crystals Comprising Benzene Functionalized with Hybrid Chiral-Nematic Mesogens," Chem. Mater. **20**, 5859–5868 (2008).

1825. P. M. Nilson, L. Willingale, M. C. Kaluza, C. Kamperidis, S. Minardi, M. S. Wei, P. Fernandes, M. Notley, S. Bandyopadhyay, M. Sherlock, R. J. Kingham, M. Tatarakis, Z. Najmudin, W. Rozmus, R. G. Evans, M. G. Haines, A. E. Dangor, and K. Krushelnick, "Bidirectional Jet Formation During Driven Magnetic Reconnection in Two-Beam Laser–Plasma Interactions," Phys. Plasmas **15** (9), 092701 (2008).

1824. A. M. Cok, R. S. Craxton, and P. W. McKenty, "Polar-Drive Designs for Optimizing Neutron Yields on the National Ignition Facility," Phys. Plasmas **15** (8), 082705 (2008).

1823. S.-W. Bahk, J. Bromage, I. A. Begishev, C. Mileham, C. Stoeckl, M. Storm, and J. D. Zuegel, "On-Shot Focal-Spot Characterization Technique Using Phase Retrieval," Appl. Opt. 47 (25), 4589–4597 (2008).

1822. V. A. Smalyuk, S. X. Hu, V. N. Goncharov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, and B. Yaakobi, "Systematic Study of Rayleigh–Taylor Growth in Directly Driven Plastic Targets in a Laser-Intensity Range from ~2×10^{14} to ~1.5×10^{15} W/cm^2," Phys. Plasmas **15** (8), 082703 (2008).

1821. C. Dorrer, J. Bromage, and J. D. Zuegel, "High-Dynamic-Range Single-Shot Cross-Correlator Based on an Optical Pulse Replicator," Opt. Express **16** (18), 13,534–13,544 (2008).

1820. H. Irie, Q. Diduck, M. Margala, R. Sobolewski, and M. J. Feldman, "Nonlinear Characteristics of T-Branch Junctions: Transition from Ballistic to Diffusive Regime," Appl. Phys. Lett. **93** (5), 053502 (2008).

1819. S. X. Hu, V. A. Smalyuk, V. N. Goncharov, S. Skupsky, T. C. Sangster, D. D. Meyerhofer, and D. Shvarts, "Validation of Thermal-Transport Modeling with Direct-Drive, Planar-Foil Acceleration Experiments on OMEGA," Phys. Rev. Lett. **101** (5), 055002 (2008).

1818. J. Qiao, A. Kalb, T. Nguyen, J. Bunkenburg, D. Canning, and J. H. Kelly, "Demonstration of Large-Aperture Tiled-Grating Compressors for High-Energy, Petawatt-Class, Chirped-Pulse Amplification Systems," Opt. Lett. **33** (15), 1684–1686 (2008).

1817. M. S. Wei, A. A. Solodov, J. Pasley, R. B. Stephens, D. R. Welch, and F. N. Beg, "Study of Relativistic Electron Beam Production and Transport in High-Intensity Laser Interaction with a Wire Target by Integrated LSP Modeling," Phys. Plasmas **15** (8), 083101 (2008).

1816. W. Manheimer, D. Colombant, and V. Goncharov, "The Development of a Krook Model for Nonlocal Transport in Laser Produced Plasmas. I. Basic Theory," Phys. Plasmas **15** (8), 083103 (2008).

1815. M. Mikulics, M. Marso, S. Wu, A. Fox, M. Lepsa, D. Grützmacher, R. Sobolewski, and P. Kordoš, "Sensitivity Enhancement of Metal–Semiconductor–Metal Photodetectors on Low-Temperature-Grown GaAs Using Alloyed Contacts," IEEE Photon. Technol. Lett. **20** (12), 1054–1056 (2008).

1814. D. N. Maywar, J. H. Kelly, L. J. Waxer, S. F. B. Morse, I. A. Begishev, J. Bromage, C. Dorrer, J. L. Edwards, L. Folnsbee, M. J. Guardalben, S. D. Jacobs, R. Jungquist, T. J. Kessler, R. W. Kidder, B. E. Kruschwitz, S. J. Loucks, J. R. Marciante, R. L. McCrory, D. D. Meyerhofer, A. V. Okishev, J. B. Oliver, G. Pien, J. Qiao, J. Puth, A. L. Rigatti, A. W. Schmid, M. J. Shoup, III, C. Stoeckl, K. A. Thorp, and J. D. Zuegel, "OMEGA EP High-Energy Petawatt Laser: Progress and Prospects," J. Phys., Conf. Ser. **112**, 032007 (2008).

1813. V. A. Smalyuk, S. X. Hu, V. N. Goncharov, D. D. Meyerhofer, T. C. Sangster, D. Shvarts, C. Stoeckl, B. Yaakobi, J. A. Frenje, and R. D. Petrasso, "Rayleigh–Taylor Growth Stabilization in Direct-Drive Plastic Targets at Laser Intensities of $\sim 1 \times 10^{15}$ W/cm^2," Phys. Rev. Lett. **101** (2), 025002 (2008).

1812. A. Simon, "Response to 'Comment on "An Alternative Analysis of Some Recent Diffusion Experiments on the Large Plasma Device" ' [Phys. Plasmas **15**, 022507 (2008)]," Phys. Plasmas **15** (7), 074702 (2008).

1811. B. Yaakobi, T. R. Boehly, T. C. Sangster, D. D. Meyerhofer, B. A. Remington, P. G. Allen, S. M. Pollaine, H. E. Lorenzana, K. T. Lorenz, and J. A. Hawreliak, "Extended X-Ray Absorption Fine Structure Measurements of Quasi-Isentropically Compressed Vanadium Targets on the OMEGA Laser," Phys. Plasmas **15** (6), 062703 (2008).

1810. S. P. Regan, T. C. Sangster, D. D. Meyerhofer, W. Seka, R. Epstein, S. J. Loucks, R. L. McCrory, C. Stoeckl, V. Yu. Glebov, O. S. Jones, D. A. Callahan, P. A. Amendt, N. B. Meezan, L. J. Suter, M. D. Rosen, O. L. Landen, E. L. DeWald, S. H. Glenzer, C. Sorce, S. Dixit, R. E. Turner, and B. MacGowan, "Hohlraum Energetics and Implosion Symmetry with Elliptical Phase Plates Using a Multi-Cone Beam Geometry on OMEGA," J. Phys., Conf. Ser. **112**, 022077 (2008).

1809. R. Betti, W. Theobald, C. D. Zhou, K. S. Anderson, P. W. McKenty, S. Skupsky, D. Shvarts, V. N. Goncharov, J. A. Delettrez, P. B. Radha, T. C. Sangster, C. Stoeckl, and D. D. Meyerhofer, "Shock Ignition of Thermonuclear Fuel with High Areal Densities," J. Phys., Conf. Ser. **112**, 022024 (2008).

1808. D. Shvarts, V. A. Smalyuk, R. Betti, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, F. J. Marshall, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "The Role of Fast-Electron Preheating in Low-Adiabat Cryogenic Implosions on OMEGA," J. Phys., Conf. Ser. **112**, 022005 (2008).

1807. V. N. Goncharov, T. C. Sangster, P. B. Radha, R. Betti, J. A. Delettrez, R. Epstein, D. R. Harding, S. X. Hu, I. V. Igumenshchev, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, W. Seka, D. Shvarts, S. Skupsky, V. A. Smalyuk, C. Stoeckl, J. A. Frenje, C. K. Li, and R. D. Petrasso, "Modeling High-Compression, Direct-Drive, ICF Experiments," J. Phys., Conf. Ser. **112**, 022002 (2008).

1806. D. R. Harding, D. D. Meyerhofer, T. C. Sangster, S. J. Loucks, R. L. McCrory, R. Betti, J. A. Delettrez, D. H. Edgell, L. M. Elasky, R. Epstein, V. Yu. Glebov, V. N. Goncharov,

S. X. Hu, I. V. Igumenshchev, D. Jacobs-Perkins, R. J. Janezic, J. P. Knauer, L. D. Lund, J. R. Marciante, F. J. Marshall, D. N. Maywar, P. W. McKenty, P. B. Radha, S. P. Regan, R. G. Roides, W. Seka, W. T. Shmayda, S. Skupsky, V. A. Smalyuk, C. Stoeckl, B. Yaakobi, J. D. Zuegel, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Cryogenic Target-Implosion Experiments on OMEGA," J. Phys., Conf. Ser. **112**, 022001 (2008).

1805. M. J. Quinlan, W. T. Shmayda, S. Lim, S. Salnikov, Z. Chambers, E. Pollock, and W. U. Schröder, "Effects of H_2O and H_2O_2 on Thermal Desorption of Tritium from Stainless Steel," Fusion Sci. Technol. **54**, 519–522 (2008).

1804. T. Duffy, W. T. Shmayda, R. Janezic, S. J. Loucks, and J. Reid, "LLE's High-Pressure DT-Fill Process Control System," Fusion Sci. Technol. **54**, 379–382 (2008).

1803. S.-W. Bahk, "Band-Limited Wavefront Reconstruction with Unity Frequency Response from Shack–Hartmann Slopes Measurements," Opt. Lett. **33** (12), 1321–1323 (2008).

1802. C. Kim, J. U. Wallace, S. H. Chen, and P. B. Merkel, "Effects of Dilution, Polarization Ratio, and Energy Transfer on Photoalignment of Liquid Crystals Using Coumarin-Containing Polymer Films," Macromolecules **41**, 3075–3080 (2008).

1801. O. V. Gotchev, P. Brijesh, P. M. Nilson, C. Stoeckl, and D. D. Meyerhofer, "A Compact, Multiangle Electron Spectrometer for Ultraintense Laser-Plasma Interaction Experiments," Rev. Sci. Instrum. **79** (5), 053505 (2008).

1800. V. A. Smalyuk, D. Shvarts, R. Betti, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Role of Hot-Electron Preheating in the Compression of Direct-Drive Imploding Targets with Cryogenic D_2 Ablators," Phys. Rev. Lett. **100**, 185005 (2008).

1799. T. C. Sangster, V. N. Goncharov, P. B. Radha, V. A. Smalyuk, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, D. R. Harding, D. Jacobs-Perkins, J. P. Knauer, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, W. Seka, R. W. Short, S. Skupsky, J. M. Soures, C. Stoeckl, B. Yaakobi, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "High-Areal-Density Fuel Assembly in Direct-Drive Cryogenic Implosions," Phys. Rev. Lett. **100**, 185006 (2008).

1798. R. L. McCrory, D. D. Meyerhofer, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. W. Jacobs-Perkins, J. P. Knauer, F. J. Marshall, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, R. W. Short, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, D. Shvarts, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Progress in Direct-Drive Inertial Confinement Fusion," Phys. Plasmas **15** (5), 055503 (2008) (invited).

1797. S. X. Hu, V. A. Smalyuk, V. N. Goncharov, J. P. Knauer, P. B. Radha, I. V. Igumenshchev, J. A. Marozas, C. Stoeckl, B. Yaakobi, D. Shvarts, T. C. Sangster, P. W. McKenty, D. D. Meyerhofer, S. Skupsky, and R. L. McCrory, "Studies of Plastic-Ablator Compressibility for Direct-Drive Inertial Confinement Fusion on OMEGA," Phys. Rev. Lett. **100** (18), 185003 (2008).

1796. A. Trajkovska Petkoska, T. Z. Kosc, K. L. Marshall, K. Hasman, and S. D. Jacobs, "Motion of Doped-Polymer-Cholesteric Liquid Crystal Flakes in a Direct-Current Electric Field," J. Appl. Phys. **103** (9), 094907 (2008).

1795. A. A. Solodov and R. Betti, "Stopping Power and Range of Energetic Electrons in Dense Plasmas of Fast-Ignition Fusion Targets," Phys. Plasmas **15** (4), 042707 (2008).

1794. M. Nakatsutsumi, J. R. Davies, R. Kodama, J. S. Green, K. L. Lancaster, K. U. Akli, F. N. Beg, S. N. Chen, D. Clark, R. R. Freeman, C. D. Gregory, H. Habara, R. Heathcote, D. S. Hey, K. Highbarger, P. Jaanimagi, M. H. Key, K. Krushelnick, T. Ma, A. MacPhee, A. J. MacKinnon, H. Nakamura, R. B. Stephens, M. Storm, M. Tampo, W. Theobald, L. Van Woerkom, R. L. Weber, M. S. Wei, N. C. Woolsey, and P. A. Norreys, "Space and Time Resolved Measurements of the Heating of Solids to Ten Million Kelvin by a Petawatt Laser," New J. Phys. **10**, 043046 (2008).

1793. M. C. Ghilea, T. C. Sangster, D. D. Meyerhofer, R. A. Lerche, and L. Disdier, "Aperture Tolerances for Neutron-Imaging Systems in Inertial Confinement Fusion," Rev. Sci. Instrum. **79** (2), 023501 (2008).

1792. C. Dorrer, "Effect of Jitter on Linear Pulse-Characterization Techniques," Opt. Express **16** (9), 6567–6578 (2008).

1791. K. U. Akli, S. B. Hansen, A. J. Kemp, R. R. Freeman, F. N. Beg, D. C. Clark, S. D. Chen, D. Hey, S. P. Hatchett, K. Highbarger, E. Giraldez, J. S. Green, G. Gregori, K. L. Lancaster, T. Ma, A. J. MacKinnon, P. Norreys, N. Patel, J. Pasley, C. Shearer, R. B. Stephens, C. Stoeckl, M. Storm, W. Theobald, L. D. Van Woerkom, R. Weber, and M. H. Key, "Laser Heating of Solid Matter by Light-Pressure-Driven Shocks at Ultrarelativistic Intensities," Phys. Rev. Lett. **100** (16), 165002 (2008).

1790. W. Seka, D. H. Edgell, J. P. Knauer, J. F. Myatt, A. V. Maximov, R. W. Short, T. C. Sangster, C. Stoeckl, R. E. Bahr, R. S. Craxton, J. A. Delettrez, V. N. Goncharov, I. V. Igumenshchev, and D. Shvarts, "Time-Resolved Absorption in Cryogenic and Room-Temperature Direct-Drive Implosions," Phys. Plasmas **15** (5), 056312 (2008) (invited).

1789. V. N. Goncharov, T. C. Sangster, P. B. Radha, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, V. Yu. Glebov, S. X. Hu, I. V. Igumenshchev, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, D. Shvarts, J. A. Frenje, R. D. Petrasso, C. K. Li, F. Seguin, W. Manheimer, and D. G. Colombant, "Performance of Direct-Drive Cryogenic Targets on OMEGA," Phys. Plasmas **15** (5), 056310 (2008) (invited).

1788. A. V. Okishev, V. I. Smirnov, L. B. Glebov, and J. D. Zuegel, "An Optical Differentiator Based on a Regenerative Amplifier with an Intracavity Tunable Volume Bragg Grating Amplifier," in *Advanced Solid-State Photonics on CD-ROM* (Optical Society of America, Washington, DC, 2008), Paper WE32.

1787. A. Simon, "An Alternative Analysis of Some Recent Diffusion Experiments on the Large Plasma Device," Phys. Plasmas **15** (2), 022507 (2008).

1786. S. Wu, J. Zhang, A. Belousov, J. Karpinski, and R. Sobolewski, "Dynamics of Intervalley Transitions and Propagation of Coherent Acoustic Phonons in GaN Single Crystals Studied by Femtosecond Pump-Probe Spectroscopy," Proc. SPIE **6894**, 68940K (2008).

1785. O. Okunev, G. Chulkova, I. Milostnaya, A. Antipov, K. Smirnov, D. Morozov, A. Korneev, B. Voronov, G. Gol'tsman, W. Slysz, M. Wegrzecki, J. Bar, P. Grabiec, M. Górska, A. Pearlman, A. Cross, J. Kitaygorsky, and R. Sobolewski, "Registration of Infrared Single Photons by a Two-Channel Receiver Based on Fiber-Coupled Superconducting Single-Photon Detectors," Proc. SPIE **7009**, 70090V (2008).

1784. L. Parlato, G. P. Pepe, D. Pan, C. De Lisio, V. Pagliarulo, A. Cosentino, N. Marrocco, D. Dalena, G. Peluso, A. Barone, and R. Sobolewski, "Time-Resolved Optical Characterization of Proximized Nano-Bilayers for Ultrafast Photodetector Applications," J. Phys., Conf. Ser. **97**, 012317 (2008).

1783. I. V. Igumenshchev, "Magnetically Arrested Disks and the Origin if Poynting Jets: A Numerical Study," Astrophys. J. **677**, 317–326 (2008).

1782. C. Dorrer and I. Kang, "Linear Self-Referencing Techniques for Short-Optical-Pulse Characterization," J. Opt. Soc. Am. B **25** (6), A1–A12 (2008) (invited).

1781. S. X. Hu, "Heating of Frozen Rydberg Gases in a Strong Magnetic Field," J. Phys. B: At. Mol. Opt. Phys. **41**, 081009 (2008).

1780. P. M. Nilson, W. Theobald, J. Myatt, C. Stoeckl, M. Storm, O. V. Gotchev, J. D. Zuegel, R. Betti, D. D. Meyerhofer, and T. C. Sangster, "High-Intensity Laser-Plasma Interactions in the Refluxing Limit," Phys. Plasmas **15**, 056308 (2008) (invited).

1779. W. Theobald, R. Betti, C. Stoeckl, K. S. Anderson, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, F. J. Marshall, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, D. Shvarts, V. A. Smalyuk, A. A. Solodov, B. Yaakobi, C. D. Zhou, J. A. Frenje, C. K. Li, F. H. Séguin, R. D. Petrasso, and L. J. Perkins, "Initial Experiments on the Shock-Ignition Inertial Confinement Fusion Concept," Phys. Plasmas **15**, 056306 (2008).

1778. C. Dorrer and J. Bromage, "Impact of High-Frequency Spectral Phase Modulation on the Temporal Profile of Short Optical Pulses," Opt. Express **16** (5), 3058–3068 (2008).

1777. K. L. Marshall, K. Hasman, M. Leitch, G. Cox, T. Z. Kosc, A. Trajkovska-Petkoska, and S. D. Jacobs, "Doped Multilayer Polymer Cholesteric-Liquid-Crystal (PCLC) Flakes: A Novel Electro-Optical Medium for Highly Reflective Color Flexible Displays," in the *SID 07 Digest*, edited by J. Morreale (Society for Information Display, San Jose, CA, 2007), Vol. XXXVIII, Book II, pp. 1741–1744.

1776. A. Simon, "Comment on 'Two-Dimensional Equilibrium of a Low-Temperature Magnetized Plasma,' " Plasma Sources Sci. Technol. **17**, 028001 (2008).

1775. K. L. Marshall, A. Trajkovska-Petkoska, K. Hasman, M. Leitch, G. Cox, T. Z. Kosc, and S. D. Jacobs, "Polymer Cholesteric-Liquid-Crystal (PCLC) Flake/Fluid Host Electro-

Optical Suspensions and Their Applications in Color Flexible Reflective Displays," in *The Proceedings of The International Display Manufacturing Conference 2007*, edited by C. H. Chen and Y.-S. Tsai (Society for Information Display, Hsinchu, Taiwan, 2007), pp. 70–73.

1774. O. V. Gotchev, N. W. Jang, J. P. Knauer, M. D. Barbero, R. Betti, C. K. Li, and R. D. Petrasso, "Magneto-Inertial Approach to Direct-Drive Laser Fusion," J. Fusion Energ. **27**, 25–31 (2008).

1773. B. Ashe, C. Giacofei, G. Myhre, and A. W. Schmid, "Optimizing a Cleaning Process for Multilayer-Dielectric- (MLD) Diffraction Grating," Proc. SPIE **6720**, 67200N (2007).

1772. S. Papernov, A. W. Schmid, J. B. Oliver, and A. L. Rigatti, "Damage Thresholds and Morphology of the Front- and Back-Irradiated SiO_2 Thin Films Containing Gold Nanoparticles as Artificial Absorbing Defects," Proc. SPIE **6720**, 67200G (2007).

1771. Z. Jiang and J. R. Marciante, "Impact of Transverse Spatial-Hole Burning on Beam Quality in Large-Mode-Area Yb-Doped Fibers," J. Opt. Soc. Am. B **25** (2), 247–254 (2008).

1770. J. S. Green, V. M. Ovchinnikov, R. G. Evans, K. U. Akli, H. Azechi, F. N. Beg, C. Bellei, R. R. Freeman, H. Habara, R. Heathcote, M. H. Key, J. A. King, K. L. Lancaster, N. C. Lopes, T. Ma, A. J. MacKinnon, K. Markey, A. McPhee, Z. Najmudin, P. Nilson, R. Onofrei, R. Stephens, K. Takeda, K. A. Tanaka, W. Theobald, T. Tanimoto, J. Waugh, L. Van Woerkom, N. C. Woolsey, M. Zepf, J. R. Davies, and P. A. Norreys, "Effect of Laser Intensity on the Fast-Electron-Beam Divergence in Solid-Density Plasmas," Phys. Rev. Lett. **100**, 015003 (2008).

1769. J. E. Miller, T. R. Boehly, D. D. Meyerhofer, and J. H. Eggert, "Equation-of-State Measurements in Ta_2O_5 Aerogel," in *Shock Compression of Condensed Matter*–2007, edited by M. Elert, M. D. Furnish, R. Chau, N. Holmes, and J. Nguyen (American Institute of Physics, Melville, NY, 2007), Vol. 955, pp. 71–74.

1768. T. R. Boehly, J. E. Miller, D. D. Meyerhofer, J. H. Eggert, P. M. Celliers, D. G. Hicks, and G. W. Collins, "Measurements of the Release of Alpha Quartz: A New Standard for Impedance-Matching Experiments," in *Shock Compression of Condensed Matter*–2007, edited by M. Elert, M. D. Furnish, R. Chau, N. Holmes, and J. Nguyen (American Institute of Physics, Melville, NY, 2007), Vol. 955, pp. 19–22.

1767. K. L. Marshall, Z. Culakova, B. Ashe, C. Giacofei, A. L. Rigatti, T. J. Kessler, A. W. Schmid, J. B. Oliver, and A. Kozlov, "Vapor-Phase–Deposited Organosilane Coatings as 'Hardening' Agents for High-Peak-Power Laser Optics," Proc. SPIE **6674**, 667407 (2007).

1766. C. Miao, K. M. Bristol, A. E. Marino, S. N. Shafrir, J. E. DeGroote, and S. D. Jacobs, "Magnetorheological Fluid Template for Basic Studies of Mechanical-Chemical Effects During Polishing," Proc. SPIE **6671**, 667110 (2007).

1765. J. E. DeGroote, A. E. Marino, J. P. Wilson, A. L. Bishop, and S. D. Jacobs, "The Role of Nanodiamonds in the Polishing Zone During Magnetorheological Finishing (MRF)," Proc. SPIE **6671**, 66710Z (2007).

1764. S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "MRF Spotting Technique for Studying Subsurface Damage in Deterministic Microground Polycrystalline Alumina," Proc. SPIE **6671**, 66710J (2007).

1763. A. Trajkovska, C. Kim, J. U. Wallace, and S. H. Chen, "Photoalignment of Monodisperse Glassy-Nematic Oligofluorenes," Proc. SPIE **6654**, 665409 (2007).

1762. K. L. Marshall, R. Wang, M. Coan, A. G. Noto, K. Leskow, R. Pauszek, and A. Moore, "Using Time-Dependent Density Functional Theory (TDDFT) in the Design and Development of Near-IR Dopants for Liquid Crystal Device Applications," Proc. SPIE **6654**, 66540F (2007).

1761. S. Wu, J. Zhang, A. Belousov, J. Karpinski, and R. Sobolewski, "Ultra-Long-Lived Coherent Acoustic Phonons in GaN Single Crystals," J. Phys., Conf. Ser. **92**, 012021 (2007).

1760. A. S. Cross, D. Wang, G. Guarino, S. Wu, A. Mycielski, and R. Sobolewski, "Studies of Coherent Acoustic Phonons in CdMnTe Diluted-Magnetic Single Crystals," J. Phys., Conf. Ser. **92**, 012015 (2007).

1759. H. Sawada, S. P. Regan, D. D. Meyerhofer, I. V. Igumenshchev, V. N. Goncharov, T. R. Boehly, R. Epstein, T. C. Sangster, V. A. Smalyuk, B. Yaakobi, G. Gregori, S. H. Glenzer, and O. L. Landen, "Diagnosing Direct-Drive, Shock-Heated, and Compressed Plastic Planar Foils with Noncollective Spectrally Resolved X-Ray Scattering," Phys. Plasmas **14**, 122703 (2007).

1758. C. Kim, J. U. Wallace, A. Trajkovska, J. J. Ou, and S. H. Chen, "Quantitative Assessment of Coumarin-Containing Polymer Film's Capability for Photoalignment of Liquid Crystals," Macromolecules **40**, 8924–8929 (2007).

1757. W. Guan, Z. Jiang, and J. R. Marciante, "Specialty Fibers Shine as High-Power, High-Beam-Quality Fiber Sources," Laser Focus World **43** (11), 105–107 (2007).

1756. R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, R. L. Keck, J. D. Kilkenny, J. P. Knauer, C. K. Li, J. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, "Progress in Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," Eur. Phys. J. D **44**, 233–238 (2007).

1755. C. Dorrer, "Analysis of Pump-Induced Temporal Contrast Degradation in Optical Parametric Chirped-Pulse Amplification," J. Opt. Soc. Am. B **24** (12), 3048–3057 (2007).

1754. C. Stoeckl, T. R. Boehly, J. A. Delettrez, S. P. Hatchett, J. A. Frenje, V. Yu. Glebov, C. K. Li, J. E. Miller, R. D. Petrasso, F. H. Séguin, V. A. Smalyuk, R. B. Stephens, W. Theobald, B. Yaakobi, and T. C. Sangster, "Hydrodynamics Studies of Direct-Drive Cone-in-Shell, Fast-Ignitor Targets on OMEGA," Phys. Plasmas **14**, 112702 (2007).

1753. L. Welser-Sherrill, R. C. Mancini, J. A. Koch, N. Izumi, R. Tommasini, S. W. Haan, D. A. Haynes, I. E. Golovkin, J. J. MacFarlane, J. A. Delettrez, F. J. Marshall, S. P. Regan, V. A. Smalyuk, and G. Kyrala, "Spectroscopic Determination of Temperature and Density Spatial Profiles and Mix in Indirect-Drive Implosion Cores," Phys. Rev. E **76**, 056403 (2007).

1752. J. E. DeGroote, A. E. Marino, J. P. Wilson, A. L. Bishop, J. C. Lambropoulos, and S. D. Jacobs, "Removal Rate Model for Magnetorheological Finishing of Glass," Appl. Opt. **46** (32), 7927–7941 (2007).

1751. D. N. Maywar, K. P. Solomon, and G. P. Agrawal, "Remote Optical Control of an Optical Flip-Flop," Opt. Lett. **32** (22), 3260–3262 (2007).

1750. W. Guan and J. R. Marciante, "Pump-Induced, Dual-Frequency Switching in a Short-Cavity, Ytterbium-Doped Fiber Laser," Opt. Express **15** (23), 14,979–14,986 (2007).

1749. S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Toward Magnetorheological Finishing of Magnetic Materials," J. Manuf. Sci. Eng. **129**, 961–964 (2007).

1748. S. Wu, P. Geiser, J. Jun, J. Karpinski, and R. Sobolewski, "Femtosecond Optical Generation and Detection of Coherent Acoustic Phonons in GaN Single Crystals," Phys. Rev. B **76**, 085210 (2007).

1747. A. V. Okishev, C. Dorrer, V. I. Smirnov, L. B. Glebov, and J. D. Zuegel, "ASE Suppression in a Diode-Pumped Nd:YLF Regenerative Amplifier Using a Volume Bragg Grating," in *Frontiers in Optics 2007*/*Laser Science XXIII*/*Organic Materials and Devices for Displays and Energy Conversion* (Optical Society of America, Washington, DC, 2007), Paper LTuB4.

1746. J. U. Wallace, R. H. Young, C. W. Tang, and S. H. Chen, "Charge-Retraction Time-of-Flight Measurement for Organic Charge Transport Materials," Appl. Phys. Lett. **91**, 152104 (2007).

1745. T. C. Sangster, R. L. McCrory, V. N. Goncharov, D. R. Harding, S. J. Loucks, P. W. McKenty, D. D. Meyerhofer, S. Skupsky, B. Yaakobi, B. J. MacGowan, L. J. Atherton, B. A. Hammel, J. D. Lindl, E. I. Moses, J. L. Porter, M. E. Cuneo, M. K. Matzen, C. W. Barnes, J. C. Fernandez, D. C. Wilson, J. D. Kilkenny, T. P. Bernat, A. Nikroo, B. G. Logan, S. Yu, R. D. Petrasso, J. D. Sethian, and S. Obenschain, "Overview of Inertial Fusion Research in the United States," Nucl. Fusion **47**, S686–S695 (2007).

1744. E. Reiger, S. Dorenbos, V. Zwiller, A. Korneev, G. Chulkova, I. Milostnaya, O. Minaeva, G. Gol'tsman, J. Kitaygorsky, D. Pan, W. Słysz, A. Jukna, and R. Sobolewski, "Spectroscopy With Nanosctructured Superconducting Single Photon Detectors," IEEE J. Sel. Top. Quantum Electron. **13** (4), 934–943 (2007).

1743. J. R. Marciante, W. R. Donaldson, and R. G. Roides, "Averaging of Replicated Pulses for Enhanced-Dynamic-Range Single-Shot Measurement of Nanosecond Optical Pulses," IEEE Photonics Technol. Lett. **19** (18), 1344–1346 (2007).

1742. L. Sun and J. R. Marciante, "Filamentation Analysis in Large-Mode-Area Fiber Lasers," J. Opt. Soc. Am. B **24** (9), 2321–2326 (2007).

1741. I. V. Igumenshchev, V. N. Goncharov, W. Seka, D. Edgell, and T. R. Boehly, "The Effect of Resonance Absorption in OMEGA Direct-Drive Designs and Experiments," Phys. Plasmas **14**, 092701 (2007).

1740. A. Simon, "Comment on 'Magnetic Field Effects on Gas Discharge Plasmas' [Phys. Plasmas **13**, 063511 (2006)]," Phys. Plasmas **14**, 084703 (2007).

1739. C. Dorrer, A. V. Okishev, I. A. Begishev, J. D. Zuegel, V. I. Smirnov, and L. B. Glebov, "Optical Parametric Chirped-Pulse–Amplification Contrast Enhancement by Regenerative Pump Spectral Filtering," Opt. Lett. **32** (16), 2378–2380 (2007).

1738. A. C.-A. Chen, J. U. Wallace, K. P. Klubek, M. B. Madaras, C. W. Tang, and S. H. Chen, "Device Characteristics of Organic Light-Emitting Diodes Comprising Terfluorene Modified with Triphenyltriazine," Chem. Mater. **19**, 4043–4048 (2007).

1737. S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Subsurface Damage and Microstructure Development in Precision Microground Hard Ceramics Using Magnetorheological Finishing Spots," Appl. Opt. **46** (22), 5500–5515 (2007).

1736. J. Qiao, A. Kalb, M. J. Guardalben, G. King, D. Canning, and J. H. Kelly, "Large-Aperture Grating Tiling by Interferometry for Petawatt Chirped-Pulse–Amplification Systems," Opt. Express **15** (15), 9562–9574 (2007).

1735. C. Dorrer, I. A. Begishev, A. V. Okishev, and J. D. Zuegel, "High-Contrast Optical-Parametric Amplifier as a Front End of High-Power Laser Systems," Opt. Lett. **32** (15), 2143–2145 (2007).

1734. W. Seka, P. Rechmann, J. D. B. Featherstone, and D. Fried, "Laser Ablation of Dental Hard Tissue," J. Laser Dent. **15** (2), 61–72 (2007).

1733. D. Pan, W. Donaldson, and R. Sobolewski, "Femtosecond Laser–Pumped Source of Entangled Photons for Quantum Cryptography Applications," Proc. SPIE **6583**, 65830K (2007).

1732. W. Slysz, M. Wegrzecki, J. Bar, P. Grabiec, M. Gorska, E. Reiger, S. Dorenbos, V. Zwiller, I. Milostnaya, O. Minaeva, A. Antipov, O. Okunev, A. Korneev, K. Smirnov, B. Voronov, N. Kaurova, G. N. Gol'tsman, J. Kitaygorsky, D. Pan, A. Pearlman, A. Cross, I. Komissarov, and R. Sobolewski, "Fiber-Coupled NbN Superconducting Single-Photon Detectors for Quantum Correlation Measurements," Proc. SPIE **6583**, 65830J (2007).

1731. A. Korneev, O. Minaeva, A. Divochiy, A. Antipov, N. Kaurova, V. Seleznev, B. Voronov, G. Gol'tsman, D. Pan, J. Kitaygorsky, W. Slysz, and R. Sobolewski,

"Ultrafast and High Quantum Efficiency Large-Area Superconducting Single-Photon Detectors," Proc. SPIE **6583**, 65830I (2007).

1730. A. Jukna, I. Barboy, G. Jung, A. Abrutis, S. S. Banerjee, X. Li, D. Wang, and R. Sobolewski, "Noise Evidence for Intermittent Channeled Vortex Motion in Laser-Processed YBaCuO Thin Films," Proc. SPIE **6600**, 66001C (2007).

1729. X. Li, M. Khafizov, Š. Chromik, M. Valerianova, V. Štrbík, P. Odier, and R. Sobolewski, "Ultrafast Photoresponse Dynamics of Current-Biased Hg-Ba-Ca-Cu-O Superconducting Microbridges," IEEE Trans. Appl. Supercond. **17** (2), 3648–3651 (2007).

1728. G. Gol'tsman, O. Minaeva, A. Korneev, M. Tarkhov, I. Rubstova, A. Divochiy, I. Milostnaya, G. Chulkova, N. Kaurova, B. Voronov, D. Pan, J. Kitaygorsky, A. Cross, A. Pearlman, I. Komissarov, W. Slysz, M. Wegrzecki, P. Grabiec, and R. Sobolewski, "Middle-Infrared to Visible-Light Ultrafast Superconducting Single-Photon Detectors," IEEE Trans. Appl. Supercond. **17** (2), 246–251 (2007).

1727. J. Kitaygorsky, I. Komissarov, A. Jukna, D. Pan, O. Minaeva, N. Kaurova, A. Divochiy, A. Korneev, M. Tarkhov, B. Voronov, I. Milostnaya, G. Gol'tsman, and R. Sobolewski, "Dark Counts in Nanostructured NbN Superconducting Single-Photon Detectors and Bridges," IEEE Trans. Appl. Supercond. **17** (2), 275–278 (2007).

1726. M. Khafizov, X. Li, Y. Cui, X. X. Xi, and R. Sobolewski, "Mechanism of Light Detection in Current-Biased Superconducting MgB_2 Microbridges," IEEE Trans. Appl. Supercond. **17** (2), 2867–2870 (2007).

1725. C. D. Zhou and R. Betti, "Hydrodynamic Relations for Direct-Drive Fast-Ignition and Conventional Inertial Confinement Fusion Implosions," Phys. Plasmas **14**, 072703 (2007).

1724. S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Micromechanical Contributions to Material Removal and Surface Finish," Proc. SPIE **TD04**, TF0407 (2007).

1723. J. E. DeGroote, A. E. Marino, J. P. Wilson, A. L. Bishop, and S. D. Jacobs, "Material Removal Rate Model for Magnetorheological Finishing (MRF) of Optical Glasses with Nanodiamond MR Fluid," Proc. SPIE **TD04**, TF040F (2007).

1722. K. A. Fletcher, B. Apker, S. Hammond, J. Punaro, F. J. Marshall, J. Laine, R. Forties, "Detection of Charged Particles with Charge Injection Devices," Rev. Sci. Instrum. **78**, 063301 (2007).

1721. H. Huang and T. Kessler, "Tiled-Grating Compressor with Uncompensated Dispersion for Near-Field-Intensity Smoothing," Opt. Lett. **32** (13), 1854–1856 (2007).

1720. A. V. Okishev, C. Dorrer, V. I. Smirnov, L. B. Glebov, and J. D. Zuegel, "Spectral Filtering in a Diode-Pumped Nd:YLF Regenerative Amplifier Using a Volume Bragg Grating," Opt. Express **15** (13), 8197–8202 (2007).

1719. R. L. McCrory, D. D. Meyerhofer, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck,

J. H. Kelly, J. P. Knauer, S. J. Loucks, L. D. Lund, J. A. Marozas, P. W. McKenty, F. J. Marshall, S. F. B. Morse, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, and T. C. Sangster, "Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," in *Current Trends in International Fusion Research—Proceedings of the Fourth Symposium*, edited by C. D. Orth and E. Panarella (NRC Research Press, Ottawa, Canada, 2007), pp. 367–386.

1718. D. Wang, A. Cross, G. Guarino, S. Wu, R. Sobolewski, and A. Mycielski, "Time-Resolved Dynamics of Coherent Acoustic Phonons in CdMnTe Diluted-Magnetic Single Crystals," Appl. Phys. Lett. **90**, 211905 (2007).

1717. T. Taneda, G. P. Pepe, L. Parlato, A. A. Golubov, and R. Sobolewski, "Time-Resolved Carrier Dynamics and Electron-Phonon Coupling Strength in Proximized Weak Ferromagnet-Superconductor Nanobilayers," Phys. Rev. B **75**, 174507 (2007).

1716. A. A. Solodov, R. Betti, J. A. Delettrez, and C. D. Zhou, "Gain Curves and Hydrodynamic Simulations of Ignition and Burn for Direct-Drive Fast-Ignition Fusion Targets," Phys. Plasmas **14**, 062701 (2007).

1715. C. Dorrer and J. D. Zuegel, "Optical Testing Using the Transport-of-Intensity Equation," Opt. Express **15** (12), 7165–7175 (2007).

1714. S. D. Jacobs, "Manipulating Mechanics and Chemistry in Precision Optics Finishing," Sci. Technol. Adv. Mater. **8**, 153–157 (2007).

1713. R. L. McCrory, "Highlights of the History of the University of Rochester," in *Inertial Confinement Nuclear Fusion: A Historical Approach by Its Pioneers*, edited by G. Velarde and N. Carpintero–Santamaría (Foxwell & Davies (UK) Ltd., London, 2007), pp. 127–166.

1712. W. Guan and J. R. Marciante, "Single-Polarisation, Single-Frequency, 2 cm Ytterbium-Doped Fibre Laser," Electron. Lett. **43** (10), 558–559 (2007).

1711. D. H. Edgell, R. S. Craxton, L. M. Elasky, D. R. Harding, S. J. Verbridge, M. D. Wittman, and W. Seka, "Three-Dimensional Characterization of Spherical Cryogenic Targets Using Ray-Trace Analysis of Multiple Shadowgraph Views," Fusion Sci. Technol. **51**, 717–726 (2007).

1710. C. Dorrer and J. D. Zuegel, "Design and Analysis of Binary Shapers Using Error Diffusion," J. Opt. Soc. Am. B **24** (6), 1268–1275 (2007).

1709. C. Dorrer, "High-Speed Characterization for Optical Telecommunication Signals," Proc. SPIE **6460**, 64600L (2007) (invited).

1708. T. C. Sangster, R. Betti, R. S. Craxton, J. A. Delettrez, D. H. Edgell, L. M. Elasky, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, D. Jacobs-Perkins, R. Janezic, R. L. Keck, J. P. Knauer, S. J. Loucks, L. D. Lund, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, W. Seka, W. T. Shmayda, S. Skupsky, V. A.

Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, J. A. Frenje. C. K. Li, R. D. Petrasso, F. H. Séguin, J. D. Moody, J. A. Atherton, B. D. MacGowan, J. D. Kilkenny, T. P. Bernat, and D. S. Montgomery, "Cryogenic DT and D_2 Targets for Inertial Confinement Fusion," Phys. Plasmas **14**, 058101 (2007).

1707. T. J. B. Collins, J. A. Marozas, R. Betti, D. R. Harding, P. W. McKenty, P. B. Radha, S. Skupsky, V. N. Goncharov, J. P. Knauer, and R. L. McCrory, "One-Megajoule, Wetted-Foam Target-Design Performance for the National Ignition Facility," Phys. Plasmas **14**, 056308 (2007).

1706. M. Haurylau, S. P. Anderson, K. L. Marshall, and P. M. Fauchet, "Electrically Tunable Silicon 2-D Photonic Bandgap Structures," IEEE J. Sel. Top. Quantum Electron. **12** (6), 1527–1533 (2006).

1705. S. P. Regan, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, D. Li, P. B. Radha, H. Sawada, W. Seka, T. R. Boehly, J. A. Delettrez, O. V. Gotchev, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, D. Shvarts, S. Skupsky, V. A. Smalyuk, B. Yaakobi, and R. C. Mancini, "Laser Absorption, Mass Ablation Rate, and Shock Heating in Direct-Drive Inertial Confinement Fusion," Phys. Plasmas **14** (5), 056305 (2007) (invited).

1704. W. Słysz, M. Węgrzecki, J. Bar, P. Grabiec, M. Górska, V. Zwiller, C. Latta, P. Böhi, A. J. Pearlman, A. S. Cross, D. Pan, J. Kitaygorsky, I. Komissarov, A. Verevkin, I. Milostnaya, A. Korneev, O. Minayeva, G. Chulkova, K. Smirnov, B. Voronov, G. N. Gol'tsman, and R. Sobolewski, "Fibre-Coupled, Single Photon Detector Based on NbN Superconducting Nanostructures for Quantum Communications," J. Mod. Opt. **54** (2–3), 315–326 (2007).

1703. V. Bagnoud, J. D. Zuegel, N. Forget, and C. Le Blanc, "High-Dynamic-Range Temporal Measurements of Short Pulses Amplified by OPCPA," Opt. Express **15** (9), 5504–5511 (2007).

1702. R. Betti, C. D. Zhou, K. S. Anderson, L. J. Perkins, W. Theobald, and A. A. Solodov, "Shock Ignition of Thermonuclear Fuel with High Areal Density," Phys. Rev. Lett. **98**, 155001 (2007).

1701. V. A. Smalyuk, V. N. Goncharov, K. S. Anderson, R. Betti, R. S. Craxton, J. A. Delettrez, D. D. Meyerhofer, S. P. Regan, and T. C. Sangster, "Measurements of the Effects of the Intensity Pickets on Laser Imprinting for Direct-Drive, Adiabat-Shaping Designs on OMEGA," Phys. Plasmas **14**, 032702 (2007).

1700. S. X. Hu, "Three-Body Recombination of Atomic Ions with Slow Electrons," Phys. Rev. Lett. **98**, 133201 (2007).

1699. T. Z. Kosc, K. L. Marshall, A. Trajkovska-Petkoska, C. J. Coon, K. Hasman, G. V. Babcock, R. Howe, M. Leitch, and S. D. Jacobs, "Development of Polymer Cholesteric Liquid Crystal Flake Technology for Electro-Optic Devices and Particle Displays," Proc. SPIE **6487**, 64870L (2007).

1698. P. Brijesh, T. J. Kessler, J. D. Zuegel, and D. D. Meyerhofer, "Demonstration of a Horseshoe-Shaped Longitudinal Focal Profile," J. Opt. Soc. Am. B **24** (5), 1–7 (2007).

1697. S. Wu, P. Geiser, J. Jun, J. Karpinski, D. Wang, and R. Sobolewski, "Time-Resolved Intervalley Transitions in GaN Single Crystals," J. Appl. Phys. **101**, 043701 (2007).

1696. J. E. Miller, T. R. Boehly, A. Melchior, D. D. Meyerhofer, P. M. Celliers, J. H. Eggert, D. G. Hicks, C. M. Sorce, J. A. Oertel, and P. M. Emmel, "Streaked Optical Pyrometer System for Laser-Driven Shock-Wave Experiments on OMEGA," Rev. Sci. Instrum. **78**, 034903 (2007).

1695. J. Myatt, W. Theobald, J. A. Delettrez, C. Stoeckl, M. Storm, T. C. Sangster, A. V. Maximov, and R. W. Short, "High-Intensity Laser Interactions with Mass-Limited Solid Targets and Implications for Fast-Ignition Experiments on OMEGA EP," Phys. Plasmas **14**, 056301 (2007).

1694. S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "A Magnetorheological Polishing-Based Approach for Studying Precision Microground Surfaces of Tungsten Carbides," Precision Engineering **31**, 83–93 (2007).

1693. S. Sublett, J. P. Knauer, I. V. Igumenshchev, A. Frank, and D. D. Meyerhofer, "Double-Pulse Laser-Driven Jets on OMEGA," Astrophys. Space Sci. **307**, 47–50 (2007).

1692. S. Papernov and A. W. Schmid, "Using Gold Nanoparticles as Artificial Defects in Thin Films: What Have We Learned About Laser-Induced Damage Driven by Localized Absorbers?" Proc. SPIE **6403**, 64030D (2007).

1691. B. Ashe, K. L. Marshall, C. Giacofei, A. L. Rigatti, T. J. Kessler, A. W. Schmid, J. B. Oliver, J. Keck, and A. Kozlov, "Evaluation of Cleaning Methods for Multilayer Diffraction Gratings," Proc. SPIE **6403**, 64030O (2007).

1690. W. Guan and J. R. Marciante, "Dual-Frequency Operation in a Short-Cavity Ytterbium-Doped Fiber Laser," IEEE Photonics Technol. Lett. **19** (5), 261–263 (2007).

1689. B. E. Kruschwitz, J. H. Kelly, M. J. Shoup III, L. J. Waxer, E. C. Cost, E. T. Green, Z. M. Hoyt, J. Taniguchi, and T. W. Walker, "High-Contrast Plasma-Electrode Pockels Cell," Appl. Opt. **46** (8), 1326–1332 (2007).

1688. V. A. Smalyuk, R. Betti, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, D. Y. Li, D. D. Meyerhofer, S. P. Regan, S. Roberts, T. C. Sangster, C. Stoeckl, W. Seka, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Experimental Studies of Direct-Drive, Low-Intensity, Low-Adiabat Spherical Implosions on OMEGA," Phys. Plasmas **14**, 022702 (2007).

1687. S. G. Lukishova, A. W. Schmid, R. Knox, P. Freivald, L. J. Bissell, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, "Room Temperature Source of Single Photons of Definite Polarization," J. Mod. Opt. **54** (2–3), 417–429 (2007).

1686. G. P. Pepe, M. Amanti, C. De Lisio, R. Latempa, N. Marrocco, L. Parlato, G. Peluso, A. Barone, R. Sobolewksi, and T. Taneda, "Ultrafast Photoresponse of

Superconductor/Ferromagnet Nb/NiCu Heterostructures," Phys. Stat. Sol. C **3** (9), 2968–2971 (2006).

1685. T. C. Sangster and J. M. Soures, "Validation of Direct-Drive Ignition Target Design on OMEGA," American Nuclear Society, Fusion Energy Division Newsletter (June 2006), pp. 10–19.

1684. S. X. Hu, "Producing Ultracold and Trappable Antihydrogen Atoms," Phys. Rev. A **75** (1), 010501(R) (2007).

1683. J. A. Marozas, "Fourier Transform–Based Continuous Phase-Plate Design Technique: A High-Pass Phase-Plate Design an Application for OMEGA and the National Ignition Facility," J. Opt. Soc. Am. A **24** (1), 74–83 (2007).

1682. J. P. Knauer, F. J. Marshall, B. Yaakobi, D. Anderson, B. A. Schmitt, K. M. Chandler, S. A. Pikuz, T. A. Shelkovenko, M. D. Mitchell, and D. A. Hammer, "Response Model for Kodak Biomax-MS Film to X Rays," Rev. Sci. Instrum. **77**, 10F331 (2006).

1681. W. Theobald, J. E. Miller, T. R. Boehly, E. Vianello, D. D. Meyerhofer, T. C. Sangster, J. Eggert, and P. M. Celliers, "X-Ray Preheating of Window Materials in Direct-Drive Shock-Wave Timing Experiments," Phys. Plasmas **13**, 122702 (2006).

1680. S. X. Hu, "Quantum Study of Slow Electron Collisions with Rydberg Atoms," Phys. Rev. A **74**, 062716 (2006).

1679. C. D. Zhou, W. Theobald, R. Betti, P. B. Radha, V. A. Smalyuk, D. Shvarts, V. Yu. Glebov, C. Stoeckl, K. S. Anderson, D. D. Meyerhofer, T. C. Sangster, C. K. Li, R. D. Petrasso, J. A. Frenje, and F. H. Séguin, "High-ρR Implosions for Fast-Ignition Fuel Assembly," Phys. Rev. Lett. **98**, 025004 (2007).

1678. L. Zheng, A. W. Schmid, and J. C. Lambropoulos, "Surface Effects on Young's Modulus and Hardness of Fused Silica by Nanoindentation Study," J. Mater. Sci. **42**, 191–198 (2007).

1677. A. V. Okishev and J. D. Zuegel, "Intracavity-Pumped Raman Laser Action in a Mid-IR, Continuous-Wave (cw) MgO:PPLN Optical Parametric Oscillator," Opt. Express **14** (25), 12,169–12,173 (2006).

1676. T. Z. Kosc, C. J. Coon, G. V. Babcock, K. L. Marshall, A. Trajkovska-Petkoska, and S. D. Jacobs, "Exploring Motion Reversal in Polymer Cholesteric-Liquid-Crystal Devices," Proc. SPIE **6332**, 633209 (2006).

1675. K. L. Marshall, A. G. Noto, G. Painter, and N. Tabiryan, "Computational Chemistry Methods for Predicting the Chiroptical Properties of Liquid Crystal Systems. II. Application to Chiral Azobenzenes," Proc. SPIE **6332**, 63320C (2006).

1674. N. N. Lepeshkin, S. G. Lukishova, R. W. Boyd, and K. L. Marshall, "Feedback-Free, Single-Beam Pattern Formation by Nanosecond Pulses in Dye-Doped Liquid Crystals," Proc. SPIE **6332**, 63320A (2006).

1673. B. Hu, R. Betti, and J. Manickam, "Kineteic Stability of the Internal Kink Mode in ITER," Phys. Plasmas **13**, 112505 (2006).

1672. T. Z. Kosc, A. A. Kozlov, and A. W. Schmid, "Formation of Periodic Microstructures on Multilayer Dielectric Gratings Prior to Total Ablation," Opt. Express **14** (22), 10,921–10,929 (2006).

1671. J. Bromage, C. Dorrer, I. A. Begishev, N. G. Usechak, and J. D. Zuegel, "Highly Sensitive, Single-Shot Characterization for Pulse Widths from 0.4 to 85 ps Using Electro-Optic Shearing Interferometry," Opt. Lett. **31** (23), 3523–3525 (2006).

1670. R. Betti and J. Sanz, "Bubble Acceleration in the Ablative Rayleigh-Taylor Instability," Phys. Rev. Lett. **97**, 205002 (2006).

1669. R. Betti, K. Anderson, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. L. Keck, J. H. Kelly, J. P. Knauer, S. J. Loucks, J. A. Marozas, F. J. Marshall, A. V. Maximov, D. N. Maywar, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, J. Myatt, P. B. Radha, S. P. Regan, C. Ren, T. C. Sangster, W. Seka, S. Skupsky, A. A. Solodov, V. A. Smalyuk, J. M. Soures, C. Stoeck, W. Theobald, B. Yaakobi, C. Zhou, J. D. Zuegel, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Seguin, "Progress in Hydrodynamics Theory and Experiments for Direct-Drive and Fast Ignition Inertial Confinement Fusion," Plasma Phys. Control. Fusion **48**, B153–B163 (2006).

1668. P. W. McKenty, M. D. Wittman, and D. R. Harding, "Effect of Experimentally Observed Hydrogenic Fractionation on Inertial Confinement Fusion Ignition Target Performance," J. Appl. Phys. **100**, 073302 (2006).

1667. V. A. Smalyuk, S. B. Dumanis, J. A. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, and C. Stoeckl, "Hot-Core Assembly in Cryogenic D2 Direct-Drive Spherical Implosions," Phys. Plasmas **13**, 104502 (2006).

1666. R. Betti, A. A. Solodov, J. A. Delettrez, and C. Zhou, "Gain Curves for Direct-Drive Fast Ignition at Densities Around 300 g/cc," Phys. Plasmas **13**, 100703 (2006).

1665. V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, C. Stoeckl, S. Roberts, C. A. Barrera, J. R. Celeste, C. J. Cerjan, L. S. Dauffy, D. C. Eder, R. L. Griffith, S. W. Haan, B. A. Hammel, S. P. Hatchett, N. Izumi, J. R. Kimbrough, J. A. Koch, O. L. Landen, R. A. Lerche, B. J. MacGowan, M. J. Moran, E. W. Ng, T. W. Phillips, P. M. Song, R. Tommasini, B. K. Young, S. E. Caldwell, G. P. Grim, S. C. Evans, J. M. Mack, T. J. Sedillo, M. D. Wilke, D. C. Wilson, C. S. Young, D. Casey, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, J. L. Bourgade, L. Disdier, M. Houry, I. Lantuejoul, O. Landoas, G. A. Chandler, G. W. Cooper, R. J. Leeper, R. E. Olson, C. L. Ruiz, M. A. Sweeney, S. P. Padalino, C. Horsfield, and B. A. Davis, "Development of Nuclear Diagnostics for the National Ignition Facility," Rev. Sci. Instrum. **77**, 10E715 (2006) (invited).

1664. V. Yu. Glebov, C. Stoeckl, T. C. Sangster, C. Mileham, S. Roberts, and R. A. Lerche, "High-Yield Bang Time Detector for the OMEGA Laser," Rev. Sci. Instrum. **77**, 10E712 (2006).

1663. Z. Jiang and J. R. Marciante, "Mode-Area Scaling of Helical-Core, Dual-Clad Fiber Lasers and Amplifiers Using an Improved Bend-Loss Model," J. Opt. Soc. Am. B **23** (10), 2051–2058 (2006).

1662. F. J. Marshall, J. P. Knauer, D. Anderson, and B. L. Schmitt, "Absolute Calibration of Kodak Biomax-MS Film Response to X Rays in the 1.5- to 8-keV Energy Range," Rev. Sci. Instrum. **77**, 10F308 (2006).

1661. I. V. Igumenshchev, "Three-Dimensional Simulations of Spherical Accretion Flows with Small-Scale Magnetic Fields," Astrophys. J. **649**, 361–372 (2006).

1660. C. Stoeckl, V. Yu. Glebov, P. A. Jaanimagi, J. P. Knauer, D. D. Meyerhofer, T. C. Sangster, M. Storm, S. Sublett, W. Theobald, M. H. Key, A. J. MacKinnon, P. Patel, D. Neely, and P. A. Norreys, "Operation of Target Diagnostics in a Petawatt Laser Environment," Rev. Sci. Instrum. **77**, 10F506 (2006) (invited).

1659. A. Trajkovska, C. Kim, K. L. Marshall, T. H. Mourey, and S. H. Chen, "Photoalignment of a Nematic Liquid Crystal Fluid and Glassy–Nematic Oligofluorenes on Coumarin-Containing Polymer Films," Macromolecules **39**, 6983–6989 (2006).

1658. J. R. Marciante and J. D. Zuegel, "High-Gain, Polarization-Preserving, Yb-Doped Fiber Amplifier for Low-Duty-Cycle Pulse Amplification," Appl. Opt. **45** (26), 6798–6804 (2006).

1657. K. L. Marshall, G. Painter, K. Lotito, A. G. Noto, and P. Chang, "Transition Metal Dithiolene Near-IR Dyes and Their Applications in Liquid Crystal Devices," Mol. Cryst. Liq. Cryst. **454**, 47–49 (2006).

1656. K. L. Marshall, K. Adelsberger, G. Myhre, and D. W. Griffin, "The LCPDI: A Compact and Robust Phase-Shifting Point-Diffraction Interferometer Based on Dye-Doped LC Technology," Mol. Cryst. Liq. Cryst. **454**, 23–45 (2006).

1655. S. G. Lukishova and A. W. Schmid, "Near-Field Optical Microscopy of Defects in Cholesteric Oligomeric Liquid Crystal Films," Mol. Cryst. Liq. Cryst. **454**, 417–423 (2006).

1654. S. G. Lukishova, R. P. Knox, P. Freivald, A. McNamara, R. W. Boyd, C. R. Stroud, Jr., A. W. Schmid, and K. L. Marshall, "Single-Photon Source for Quantum Information Based on Single Dye Molecule Fluorescence in Liquid Crystal Host," Mol. Cryst. Liq. Cryst. **454**, 403–416 (2006).

1653. S. G. Lukishova, N. Lepeshkin, R. W. Boyd, and K. L. Marshall, "Far-Field Patterns from Dye-Doped Planar-Aligned Nematic Liquid Crystals Under Nanosecond Laser Irradiation," Mol. Cryst. Liq. Cryst. **453**, 393–401 (2006).

1652. W. Słysz, M. Węgrzecki, J. Bar, P. Grabiec, M. Górska, V. Zwiller, C. Latta, P. Bohi, I. Milostnaya, O. Minaeva, A. Antipov, O. Okunev, A. Korneev, K. Smirnov, B. Voronov, N. Kaurova, G. Gol'tsman, A. Pearlman, A. Cross, I. Komissarov, A. Verevkin, and R. Sobolewski, "Fiber-Coupled Single-Photon Detectors Based on NbN

Superconducting Nanostructures for Practical Quantum Cryptography and Photon-Correlation Studies," Appl. Phys. Lett. **88**, 261113 (2006).

1651. A. Korneev, O. Minaeva, I. Rubtsova, I. Milostnaya, G. Chulkova, B. Voronov, K. Smirnov, V. Seleznev, G. Gol'tsman, A. Pearlman, W. Slysz, A. Cross, P. Alvarez, A. Verevkin, R. Sobolewski, "Superconducting Single-Photon Ultrathin NbN Film Detector," Quantum Electron. **35** (8), 698–700 (2005).

1650. S. W. Culligan, A. C.-A. Chen, J. U. Wallace, K. P. Klubek, C. W. Tang, and S. H. Chen, "Effect of Hole Mobility Through Emissive Layer on Temporal Stability of Blue Organic Light-Emitting Diodes," Adv. Funct. Mater. **16**, 1481–1487 (2006).

1649. J. U. Wallace and S. H. Chen, "Simplified Scheme for Deterministic Synthesis of Chiral-Nematic Glassy Liquid Crystals," Ind. Eng. Chem. Res. **45**, 4494–4499 (2006).

1648. D. H. Edgell, W. Seka, R. S. Craxton, L. M. Elasky, D. R. Harding, R. L. Keck, L. D. Lund, and M. D. Wittman, "Characterization of Cryogenic Direct-Drive ICF Targets During Layering Studies and Just Prior to Shot Time," J. Phys. IV France **133**, 903–906 (2006).

1647. J. D. Zuegel, V. Bagnoud, J. Bromage, I. A. Begishev, and J. Puth, "High-Performance OPCPA Laser System," J. Phys. IV France **133**, 701–703 (2006).

1646. B. E. Kruschwitz, R. Jungquist, J. Qiao, S. Abbey, S. E. Dean, D. N. Maywar, M. D. Moore, L. J. Waxer, and M. E. Wilson, "Large-Aperture Deformable Mirror Correction of Tiled-Grating Wavefront Error," J. Phys. IV France **133**, 645–648 (2006).

1645. J. Bromage, J. D. Zuegel, S.-W. Bahk, D. S. Vickery, L. J. Waxer, D. Irwin, V. Bagnoud, R. Boni, M. D. Moore, R. Jungquist, and C. Stoeckl, "High-Intensity Laser Diagnostics for OMEGA EP," J. Phys. IV France **133**, 705–707 (2006).

1644. R. Betti and C. Zhou, "Low-Adiabat Implosions for Fast-Ignition Inertial Confinement Fusion," J. Phys. IV France **133**, 379–383 (2006).

1643. S. Skupsky, R. S. Craxton, F. J. Marshall, R. Betti, T. J. B. Collins, R. Epstein, V. N. Goncharov, I. V. Igumenshchev, J. A. Marozas, P. W. McKenty, P. B. Radha, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, "Polar Direct Drive—Ignition at 1 MJ," J. Phys. IV France **133**, 233–235 (2006).

1642. F. J. Marshall, R. S. Craxton, M. J. Bonino, R. Epstein, V. Yu. Glebov, D. Jacobs-Perkins, J. P. Knauer, J. A. Marozas, P. W. McKenty, S. G. Noyes, P. B. Radha, W. Seka, S. Skupsky, and V. A. Smalyuk, "Polar-Direct-Drive Experiments on OMEGA," J. Phys. IV France **133**, 153–157 (2006).

1641. V. N. Goncharov, O. V. Gotchev, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, T. C. Sangster, S. Skupsky, and C. Cherfils-Clerouin, "Ablative Richtmyer–Meshkov Instability: Theory and Experimental Results," J. Phys. IV France **133**, 123–127 (2006).

1640. J. H. Kelly, L. J. Waxer, V. Bagnoud, I. A. Begishev, J. Bromage, B. E. Kruschwitz, T. J. Kessler, S. J. Loucks, D. N. Maywar, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse,

J. B. Oliver, A. L. Rigatti, A. W. Schmid, C. Stoeckl, S. Dalton, L. Folnsbee, M. J. Guardalben, R. Jungquist, J. Puth, M. J. Shoup III, D. Weiner, and J. D. Zuegel, "OMEGA EP: High-Energy Petawatt Capability for the OMEGA Laser Facility," J. Phys. IV France **133**, 75–80 (2006).

1639. R. L. McCrory, D. D. Meyerhofer, S. J. Loucks, S. Skupsky, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, D. H. Edgell, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, R. L. Keck, J. D. Kilkenny, J. P. Knauer, C. K. Li, J. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, S. F. B. Morse, J. Myatt, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, "Progress in Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," J. Phys. IV France **133**, 59–65 (2006).

1638. C. Kim, A. Trajkovska, J. U. Wallace, and S. H. Chen, "New Insight into Photoalignment of Liquid Crystals on Coumarin-Containing Polymer Films," Macromolecules **39**, 3817–3823 (2006).

1637. D. R. Harding, D. D. Meyerhofer, S. J. Loucks, L. D. Lund, R. Janezic, L. M. Elasky, T. H. Hinterman, D. H. Edgell, W. Seka, M. D. Wittman, R. Q. Gram, D. Jacobs-Perkins, R. Early, T. Duffy, and M. J. Bonino, "Forming Cryogenic Targets for Direct-Drive Experiments," Phys. Plasmas **13**, 056316 (2006).

1636. V. A. Smalyuk, O. Sadot, R. Betti, V. N. Goncharov, J. A. Delettrez, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, and D. Shvarts, "Rayleigh–Taylor Growth Measurements of Three-Dimensional Modulations in a Nonlinear Regime," Phys. Plasmas **13**, 056312 (2006).

1635. A. Jukna, I. Barboy, G. Jung, A. Abrutis, X. Li, D. Wang, and R. Sobolewski, "Electric Properties of $YBa_2Cu_3O_{7-\delta}$ Thin-Film Bridges with Laser-Written Channels of Easy Vortex Motion," J. Appl. Phys. **99**, 113902 (2006).

1634. W. T. Shmayda, S. J. Loucks, R. Janezic, T. W. Duffy, D. R. Harding, and L. D. Lund, "Tritium Operations at the Laboratory for Laser Energetics," Fusion Sci. Technol. **49**, 851–858 (2006).

1633. A. K. Knight and D. R. Harding, "Modeling Polymer Vapor Deposition: PMDA-ODA Poly(amic Acid)," Fusion Sci. Technol. **49**, 728–736 (2006).

1632. D. H. Edgell, R. S. Craxton, L. M. Elasky, D. R. Harding, L. S. Iwan, R. L. Keck, L. D. Lund, S. J. Verbridge, M. D. Wittman, A. Warrick, T. Brown, and W. Seka, "Three-Dimensional Characterization of Cryogenic Target Ice Layers Using Multiple Shadowgraph Views," Fusion Sci. Technol. **49**, 616–625 (2006).

1631. J. A. Marozas, F. J. Marshall, R. S. Craxton, I. V. Igumenshchev, S. Skupsky, M. J. Bonino, T. J. B. Collins, R. Epstein, V. Yu. Glebov, D. Jacobs-Perkins, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. G. Noyes, P. B. Radha, T. C. Sangster, W. Seka, and V. A. Smalyuk, "Polar-Direct-Drive Simulations and Experiments," Phys. Plasmas **13**, 056311 (2006).

1630. J. B. Oliver and D. Talbot, "Optimization of Deposition Uniformity for Large-Aperture National Ignition Facility Substrates in a Planetary Rotation System," Appl. Opt. **45** (13), 3097–3105 (2006).

1629. T. R. Boehly, E. Vianello, J. E. Miller, R. S. Craxton, T. J. B. Collins, V. N. Goncharov, I. V. Igumenshchev, D. D. Meyerhofer, D. G. Hicks, P. M. Celliers, and G. W. Collins, "Shock-Timing Experiments Using Double-Pulse Laser Irradiation," Phys. Plasmas **13**, 056303 (2006).

1628. J. Bunkenburg, T. J. Kessler, W. Skulski, and H. Huang, "Phase-Locked Control of Tiled-Grating Assemblies for Chirped-Pulse-Amplified Lasers Using a Mach–Zehnder Interferometer," Opt. Lett. **31** (10), 1561–1563 (2006).

1627. W. Theobald, K. Akli, R. Clarke, J. A. Delettrez, R. R. Freeman, S. Glenzer, J. Green, G. Gregori, R. Heathcote, N. Izumi, J. A. King, J. A. Koch, J. Kuba, K. Lancaster, A. J. MacKinnon, M. Key, C. Mileham, J. Myatt, D. Neely, P. A. Norreys, H.-S. Park, J. Pasely, P. Patel, S. P. Regan, H. Sawada, R. Shepherd, R. Snavely, R. B. Stephens, C. Stoeckl, M. Storm, B. Zhang, and T. C. Sangster, "Hot Surface Ionic Line Emission and Cold K-Inner Shell Emission from Petawatt-Laser-Irradiated Cu Foil Targets," Phys. Plasmas **13**, 043102 (2006).

1626. K. L. Marshall, A. Trajkovska-Petkoska, T. Z. Kosc, and S. D. Jacobs, "Polymer Cholesteric Liquid Crystal (PCLC) Flake/Fluid Host Suspensions: A Novel Electro-Optical Medium for Reflective Color Display Applications," in *EuroDisplay 2005* (Society for Information Display, San Jose, CA, 2005), pp. 552–554.

1625. M. Haurylau, S. P. Anderson, K. L. Marshall, and P. M. Fauchet, "Electrical Tuning of Photonic-Bandgap Structures in Silicon," SPIE Newsroom, *Nanotechnology*, April 2006, http://newsroom.spie.org.

1624. J. D. Zuegel, S. Borneis, C. Barty, B. LeGarrec, C. Danson, N. Miyanaga, P. K. Rambo, C. LeBlanc, T. J. Kessler, A. W. Schmid, L. J. Waxer, J. H. Kelly, B. Kruschwitz, R. Jungquist, E. Moses, J. Britten, I. Jovanovic, J. Dawson, and N. Blanchot, "Laser Challenges for Fast Ignition," Fusion Sci. Technol. **49**, 453–482 (2006).

1623. C. Stoeckl, J. A. Delettrez, J. H. Kelly, T. J. Kessler, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, D. D. Meyerhofer, D. N. Maywar, S. F. B. Morse, J. Myatt, A. L. Rigatti, L. J. Waxer, J. D. Zuegel, and R. B. Stephens, "High-Energy Petawatt Project at the University of Rochester's Laboratory for Laser Energetics," Fusion Sci. Technol. **49**, 367–373 (2006).

1622. M. Bobeica, D. R. Harding, and R. Q. Gram, "An Experimental Method for Measuring the Response of a Target to the Thermal Environment of the Fusion Reaction Chamber," in the *Twenty-first IEEE/NPSS Symposium on Fusion Engineering 2005* (IEEE, Piscataway, NJ, 2006).

1621. O. V. Gotchev, V. N. Goncharov, J. P. Knauer, T. R. Boehly, T. J. B. Collins, R. Epstein, P. A. Jaanimagi, and D. D. Meyerhofer, "Test of Thermal Transport Models through

Dynamic Overpressure Stabilization of Ablation-Front Perturbation Growth in Laser-Driven CH Foils," Phys. Rev. Lett. **96**, 115005 (2006).

1620. M. Mikulics, S. Wu, M. Marso, R. Adam, A. Förster, A. van der Hart, P. Kordoš, H. Lüth, and R. Sobolewski, "Ultrafast and Highly Sensitive Photodetectors With Recessed Electrodes Fabricated on Low-Temperature-Grown GaAs," IEEE Photonics Technol. Lett. **18** (7), 820–822 (2006).

1619. J. Keck, J. B. Oliver, T. J. Kessler, H. Huang, J. Barone, J. Hettrick, A. L. Rigatti, T. Hoover, K. L. Marshall, A. W. Schmid, A. Kozlov, and T. Z. Kosc, "Manufacture and Development of Multilayer Diffraction Gratings," Proc. SPIE **5991**, 443–448 (2005).

1618. S. Papernov, A. W. Schmid, A. L. Rigatti, J. B. Oliver, and J. D. Howe, "Damage Behavior of HfO_2 Monolayer Film Containing Gold Nanoparticles as Artificial Absorbing Defects," Proc. SPIE **5991**, 429–435 (2005).

1617. J. B. Oliver, T. J. Kessler, H. Huang, J. Keck, A. L. Rigatti, A. W. Schmid, A. Kozlov, and T. Z. Kosc, "Thin-Film Design for Multilayer Diffraction Gratings," Proc. SPIE **5991**, 402–408 (2005).

1616. J. B. Oliver, A. L. Rigatti, J. D. Howe, J. Keck, J. Szczepanski, A. W. Schmid, S. Papernov, A. Kozlov, and T. Z. Kosc, "Thin-Film Polarizers for the OMEGA EP Laser System," Proc. SPIE **5991**, 394–401 (2005).

1615. D. Clay, D. Poslusny, M. Flinders, S. D. Jacobs, and R. A. Cutler, "Effect of $LiAl_5O_8$ Additions on the Sintering and Optical Transparency of LiAlON," J. Europ. Ceram. Soc. **26**, 1351–1362 (2006).

1614. S. I. Kudryashov, S. D. Allen, S. Papernov, and A. W. Schmid, "Nanoscale Laser-Induced Spallation in SiO_2 Films Containing Gold Nanoparticles," Appl. Phys. B **82** (4), 523–527 (2006).

1613. M. Haurylau, S. P. Anderson, K. L. Marshall, and P. M. Fauchet, "Electrical Modulation of Silicon-Based Two-Dimensional Photonic Bandgap Structures," Appl. Phys. Lett. **88**, 061103 (2006).

1612. K. L. Marshall, K. Adelsberger, B. Kolodzie, G. Myhre, and D. W. Griffin, "A Second-Generation, Liquid Crystal Phase-Shifting Point-Diffraction Interferometer Employing Structured Substrates," Proc. SPIE **5880**, 103–114 (2005).

1611. M. Haurylau, S. P. Anderson, K. L. Marshall, and P. M. Fauchet, "Electrical Tuning of Silicon-Based 2-D Photonic Bandgap Structures," Proc. SPIE **5926**, 15–24 (2005).

1610. A. V. Okishev, R. G. Roides, I. A. Begishev, and J. D. Zuegel, "All-Solid-State, Diode-Pumped Multi Harmonic Laser System for Timing Fiducial," Proc. SPIE **6053**, 141–147 (2006).

1609. A. V. Okishev, K. P. Dolgaleva, and J. D. Zuegel, "Experimental Optimization of Diode-Pumped Yb:GdCOB Laser Performance for Broadband Amplification at 1053 nm," Proc. SPIE **6054**, 124–127 (2006).

1608. S. Wu, P. Geiser, J. Jun, J. Karpinski, J.-R. Park, and R. Sobolewski, "Long-Lived, Coherent Acoustic Phonon Oscillations in GaN Single Crystals," Appl. Phys. Lett. **88**, 041917 (2006).

1607. V. N. Goncharov, O. V. Gotchev, E. Vianello, T. R. Boehly, J. P. Knauer, P. W. McKenty, P. B. Radha, S. P. Regan, T. C. Sangster, S. Skupsky, V. A. Smalyuk, R. Betti, R. L. McCrory, D. D. Meyerhofer, and C. Cherfils-Clérouin, "Early Stage of Implosion in Inertial Confinement Fusion: Shock Timing and Perturbation Evolution," Phys. Plasmas **13**, 012702 (2006).

1606. Y. V. Artemova, G. S. Bisanovatyi-Kogan, I. V. Igumenshchev, and I. D. Novikov, "Black Hole Advective Accretion Disks with Optical Depth Transition," Astrophys. J. **637**, 968–977 (2006).

1605. E. Fess, J. Schoen, M. Bechtold, D. Mohring, and C. Bouvier, "UltraForm Finishing Process for Optical Materials," Proc. SPIE **5869**, 88–93 (2005).

1604. A. C.-A. Chen, J. U. Wallace, S. K.-H. Wei, L. Zeng, S. H. Chen, and T. N. Blanton, "Light-Emitting Organic Materials with Variable Charge Injection and Transport Properties," Chem. Mater. **18**, 204–213 (2006).

1603. O. Sadot, V. A. Smalyuk, J. A. Delettrez, D. D. Meyerhofer, T. C. Sangster, R. Betti, V. N. Goncharov, and D. Shvarts, "Observation of Self-Similar Behavior of the 3D, Nonlinear Rayleigh–Taylor Instability," Phys. Rev. Lett. **95**, 265001 (2005).

1602. V. A. Smalyuk, O. Sadot, J. A. Delettrez, D. D. Meyerhofer, S. P. Regan, and T. C. Sangster, "Fourier-Space Nonlinear Rayleigh–Taylor Growth Measurements of 3-D Laser-Imprinted Modulations in Planar Targets," Phys. Rev. Lett. **95**, 215001 (2005).

1601. S. Costea, S. Pisana, N. P. Kherani, F. Gaspari, T. Kosteski, W. T. Shmayda, and S. Zukotynski, "Use of Tritium in the Study of Defects in Amorphous Silicon," Fusion Sci. Technol. **48** (1), 712–715 (2005).

1600. A. G. Noto and K. L. Marshall, "Application of Computational Chemistry Methods to the Prediction of Chirality and Helical Twisting Power in Liquid Crystal Systems," Proc. SPIE **5936**, 59360R (2007).

1599. A. C.-A. Chen, J. U. Wallace, L. Zeng, S. K.-H. Wei, and S. H. Chen, "Novel Light-Emitting Organic Materials with Variable Electron and Hole Conductivities," Proc. SPIE **5936**, 59360I (2005).

1598. J. A. Delettrez, J. Myatt, P. B. Radha, C. Stoeckl, S. Skupsky, and D. D. Meyerhofer, "Hydrodynamic Simulations of Integrated Experiments Planned for the OMEGA/OMEGA EP Laser Systems," Plasma Phys. Control. Fusion **47**, B791–B798 (2005).

1597. C. Stoeckl, T. R. Boehly, J. A. Delettrez, S. P. Hatchett, J. A. Frenje, V. Yu. Glebov, C. K. Li, J. E. Miller, R. D. Petrasso, F. H. Seguin, V. A. Smalyuk, R. B. Stephens, W. Theobald, B. Yaakobi, and T. C. Sangster, "Direct-Drive Fuel-Assembly Experiments with Gas-Filled, Cone-in-Shell, Fast-Ignitor Targets on the OMEGA Laser," Plasma Phys. Control. Fusion **47**, B859–B867 (2005).

1596. A. Jukna, I. Barboy, G. Jung, S. S. Banerjee, Y. Myasoedov, V. Plausinaitiene, A. Abrutis, X. Li, D. Wang, and R. Sobolewski, "Laser Processed Channels of Easy Vortex Motion in $YBa_2Cu_3O_{7-\delta}$ Films," Appl. Phys. Lett. **87**, 192504 (2005).

1595. R. Betti and C. Zhou, "High-Density and High-ρR Fuel Assembly for Fast-Ignition Inertial Confinement Fusion," Phys. Plasmas **12**, 110702 (2005).

1594. D. R. Harding, T. C. Sangster, D. D. Meyerhofer, P. W. McKenty, L. D. Lund, L. Elasky, M. D. Wittman, W. Seka, S. J. Loucks, R. Janezic, T. H. Hinterman, D. H. Edgell, D. Jacobs-Perkins, and R. Q. Gram, "Producing Cryogenic Deuterium Targets for Experiments on OMEGA," Fusion Sci. Technol. **48** (3), 1299–1306 (2005).

1593. H. L. Helfer, "The Local Dark Matter," in *Progress in Dark Matter Research*, edited by J. Val Blain (Nova Science, New York, 2005), pp. 121–147.

1592. N. G. Usechak and G. P. Agrawal, "Pulse Switching and Stability in FM Mode-Locked Fiber Lasers," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications, Systems and Technologies 2005* (Optical Society of America, Washington, DC, 2005), Paper JWB46.

1591. N. G. Usechak and G. P. Agrawal, "An Analytic Technique for Investigating Mode-Locked Lasers," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications, Systems and Technologies 2005* (Optical Society of America, Washington, DC, 2005), Paper CTuCC1.

1590. J. R. Marciante and J. D. Zuegel, "High-Gain, Polarization-Preserving, Yb-Doped Fiber Amplifier for Low-Duty-Cycle Pulse Amplification," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications, Systems and Technologies 2005* (Optical Society of America, Washington, DC, 2005), Paper JWB60.

1589. S. G. Lukishova, A. W. Schmid, R. Knox, P. Freivald, R. W. Boyd, C. R. Stroud, Jr., and K. L. Marshall, "Deterministically Polarized Fluorescence from Single Dye Molecules Aligned in Liquid Crystal Host," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications, Systems and Technologies 2005* (Optical Society of America, Washington, DC, 2005), Paper QTuE6.

1588. Z. Jiang and J. R. Marciante, "Mode-Area Scaling of Helical-Core Dual-Clad Fiber Lasers and Amplifiers," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications, Systems and Technologies 2005* (Optical Society of America, Washington, DC, 2005), Paper CThR3.

1587. V. Bagnoud, J. Puth, I. Begishev, M. Guardalben, J. D. Zuegel, N. Forget, and C. Le Blanc, "A Multiterawatt Laser Using a High-Contrast, Optical Parametric Chirped-

Pulse Preamplifier," in *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science and Photonic Applications, Systems and Technologies 2005* (Optical Society of America, Washington, DC, 2005), Paper JFA1.

1586. L. Zheng, J. C. Lambropoulos, and A. W. Schmid, "Molecular Dynamics Study of UV-Laser-Induced Densification of Fused Silica. II. Effects of Laser Pulse Duration, Pressure, and Temperature, and Comparison with Pressure-Induced Densification," J. Non-Cryst. Solids **351**, 3271–3278 (2005).

1585. R. L. McCrory, S. P. Regan, S. J. Loucks, D. D. Meyerhofer, S. Skupsky, R. Betti, T. R. Boehly, R. S. Craxton, T. J. B. Collins, J. A. Delettrez, D. Edgell, R. Epstein, K. A. Fletcher, C. Freeman, J. A. Frenje, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, I. V. Igumenshchev, R. L. Keck, J. D. Kilkenny, J. P. Knauer, C. K. Li, J. Marciante, J. A. Marozas, F. J. Marshall, A. V. Maximov, P. W. McKenty, J. Myatt, S. Padalino, R. D. Petrasso, P. B. Radha, T. C. Sangster, F. H. Séguin, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, and J. D. Zuegel, "Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics: Charting the Path to Thermonuclear Ignition," Nucl. Fusion **45**, S283–S290 (2005).

1584. J. E. DeGroote, A. E. Marino, J. P. Wilson, K. E. Spencer, and S. D. Jacobs, "Effects of Nanodiamond Abrasive Friability in Experimental MR Fluids with Phosphate Laser Glass LHG-8 and Other Optical Glasses," Proc. SPIE **5869**, 121–132 (2005).

1583. B. Yaakobi, T. R. Boehly, D. D. Meyerhofer, T. J. B. Collins, B. A. Remington, P. G. Allen, S. M. Pollaine, H. E. Lorenzana, and J. H. Eggert, "Extended X-Ray Absorption Fine Structure Measurement of Phase Transformation in Iron Shocked by Nanosecond Laser," Phys. Plasmas **12**, 092703 (2005).

1582. L. Parlato, R. Latempa, G. Peluso, G. P. Pepe, R. Cristiano, and R. Sobolewski, "The Characteristic Electron–Phonon Coupling Time of Unconventional Superconductors and Implications for Optical Detectors," Supercond. Sci. Technol. **18**, 1244–1251 (2005).

1581. I. A. Kozhinova, H. J. Romanofsky, A. Maltsev, S. D. Jacobs, W. I. Kordonski, and S. R. Gorodkin, "Minimizing Artifact Formation in Magnetorheological Finishing of Chemical Vapor Deposition ZnS Flats," Appl. Opt. **44** (22), 4671–4677 (2005).

1580. B. Yaakobi, T. R. Boehly, D. D. Meyerhofer, T. J. B. Collins, B. A. Remington, P. G. Allen, S. M. Pollaine, H. E. Lorenzana, and J. H. Eggert, "EXAFS Measurement of Iron bcc-to-hcp Phase Transformation in Nanosecond-Laser Shocks," Phys. Rev. Lett. **95**, 075501 (2005).

1579. T. Kosteski, N. P. Kherani, W. T. Shmayda, S. Costea, and S. Zukotynski, "Nuclear Batteries Using Tritium and Thin Film Hydrogenated Amorphous Silicon," Fusion Sci. Technol. **48** (1), 700–703 (2005).

1578. L. J. Waxer, D. N. Maywar, J. H. Kelly, T. J. Kessler, B. E. Kruschwitz, S. J. Loucks, R. L. McCrory, D. D. Meyerhofer, S. F. B. Morse, C. Stoeckl, and J. D. Zuegel, "High-Energy Petawatt Capability for the Omega Laser," Opt. Photonics News **16** (7), 30–36 (2005).

1577. M. Mikulics, R. Adam, M. Marso, A. Förster, P. Kordoš, H. Lüth, S. Wu, X. Zheng, and R. Sobolewski, "Ultrafast Low-Temperature-Grown Epitaxial GaAs Photodetectors Transferred on Flexible Plastic Substrates," IEEE Photonics Technol. Lett. **17** (8), 1725–1727 (2005).

1576. D. Wang, A. Verevkin, R. Sobolewski, R. Adam, A. van der Hart, and R. Franchy, "Magnetooptical Kerr Effect Measurements of Ultrafast Spin Dynamics in Colbalt Nanodots," IEEE Trans. Nanotech. **4** (4), 460–464 (2005).

1575. M. Mikulics, M. Marso, I. C. Mayorga, R. Güsten, S. Stanček, P. Kováč, S. Wu, X. Li, M. Khafizov, R. Sobolewski, E. A. Michael, R. Schieder, M. Wolter, D. Buca, A. Förster, P. Kordoš, and H. Lüth, "Photomixers Fabricated on Nitrogen-Ion-Implanted GaAs," Appl. Phys. Lett. **87**, 041106 (2005).

1574. T. Z. Kosc, K. L. Marshall, S. D. Jacobs, and J. C. Lambropoulos, "Polymer Cholesteric Liquid-Crystal Flake Reorientation in an Alternating-Current Electric Field," J. Appl. Phys. **98**, 013509 (2005).

1573. R. A. Forties and F. J. Marshall, "*In-Situ* Characterization of High-Intensity Laser Beams on OMEGA," Rev. Sci. Instrum. **76**, 073505 (2005).

1572. W. R. Donaldson, M. Millecchia, and R. Keck, "A Multichannel, High-Resolution, UV Spectrometer for Laser-Fusion Applications," Rev. Sci. Instrum. **76**, 073106 (2005).

1571. V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Puth, and J. D. Zuegel, "5 Hz, >250 mJ Optical Parametric Chirped-Pulse Amplifier at 1053 nm," Opt. Lett. **30** (14), 1843–1845 (2005).

1570. V. A. Smalyuk, V. N. Goncharov, T. R. Boehly, J. A. Delettrez, D. Y. Li, J. A. Marozas, A. V. Maximov, D. D. Meyerhofer, S. P. Regan, and T. C. Sangster, "Measurement of Laser-Imprinting Sensitivity to Relative Beam Mistiming in Planar Plastic Foils Driven by Multiple Overlapping Laser Beams," Phys. Plasmas **12**, 072703 (2005).

1569. X. Teng and H. Yang, "Synthesis of Magnetic Nanocomposites and Alloys from Platinum–Iron Oxide Core–Shell Nanoparticles," Nanotechnology **16**, S554–S561 (2005).

1568. X. Li, Y. Xu, Š. Chromik, V. Štrbík, P. Odier, D. De Barros, and R. Sobolewski, "Time-Resolved Carrier Dynamics in Hg-Based High-Temperature Superconducting Photodetectors," IEEE Trans. Appl. Supercond. **15** (2), 622–625 (2005).

1567. J. K. W. Yang, E. Dauler, A. Ferri, A. Pearlman, A. Verevkin. G. Gol'tsman, B. Voronov, R. Sobolewski, W. E. Keicher, and K. K. Berggren, "Fabrication Development for Nanowire GHz-Counting-Rate Single-Photon Detectors," IEEE Trans. Appl. Supercond. **15** (2), 626–630 (2005).

1566. J. Kitaygorsky, J. Zhang, A. Verevkin, A. Sergeev, A. Korneev, V. Matvienko, P. Kouminov, K. Smirnov, B. Voronov, G. Gol'tsman, and R. Sobolewski, "Origin of Dark Counts in Nanostructured NbN Single-Photon Detectors," IEEE Trans. Appl. Supercond. **15** (2), 545–548 (2005).

1565. A. Korneev, V. Matvienko, O. Minaeva, I. Milostnaya, I. Rubtsova, G. Chulkova, K. Smirnov, V. Voronov, G. Gol'tsman, W. Słysz, A. Pearlman, A. Verevkin, and R. Sobolewski, "Quantum Efficiency and Noise Equivalent Power of Nanostructured, NbN, Single-Photon Detectors in the Wavelength Range from Visible to Infrared," IEEE Trans. Appl. Supercond. **15** (2), 571–574 (2005).

1564. G. P. Pepe, L. Parlato, R. Latempa, P. D'Acunto, N. Marrocco, C. De Lisio, C. Altucci, G. Peluso, A. Barone, T. Taneda, and R. Sobolewski, "Fabrication and Optical Properties of Ultrathin Ferromagnet/Superconductor Metallic Bilayers," IEEE Trans. Appl. Supercond. **15** (2), 2942–2945 (2005).

1563. A. Pearlman, A. Cross, W. Słysz, J. Zhang, A. Verevkin, M. Currie, A. Korneev, P. Kouminov, K. Smirnov, B. Voronov, G. Gol'tsman, and R. Sobolewski, "Gigahertz Counting Rates of NbN Single-Photon Detectors for Quantum Communications," IEEE Trans. Appl. Supercond. **15** (2), 579–582 (2005).

1562. S. P. Regan, T. C. Sangster, D. D. Meyerhofer, K. Anderson, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, R. Epstein, O. V. Gotchev, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, P. A. Jaanimagi, J. P. Knauer, S. J. Loucks, L. D. Lund, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, S. F. B. Morse, P. B. Radha, W. Seka, S. Skupsky, H. Sawada, V. A. Smalyuk, J. M. Soures, C. Stoeckl, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Direct-Drive Inertial Confinement Fusion Implosions on OMEGA," Astrophys. Space Sci. **298**, 227–233 (2005).

1561. B. Yaakobi, C. Stoeckl, W. Seka, J. A. Delettrez, T. C. Sangster, and D. D. Meyerhofer, "Measurement of Preheat Due to Fast Electrons in Laser Implosions of Cryogenic Deuterium Targets," Phys. Plasmas **12**, 062703 (2005).

1560. T. J. B. Collins, A. Poludnenko, A. Cunningham, and A. Frank, "Shock Propagation in Deuterium-Tritium-Saturated Foam," Phys. Plasmas **12**, 062705 (2005).

1559. D. R. Harding, F.-Y. Tsai, E. L. Alfonso, S. H. Chen, A. K. Knight, and T. N. Blanton, "Properties of Vapor-Deposited Polyimides," in *Polyimides and Other High Temperature Polymers: Synthesis, Characterization and Applications*, edited by K. L. Mittal (VSP, Utrecht, The Netherlands, 2005), Vol. 3, pp. 49–67.

1558. S. Chen, P. Zhang, W. Theobald, N. Selah, M. Rever, A. Maksimchuk, and D. Umstadter, "Evidence of Ionization Blue Shift Seeding of Forward Raman Scattering," in *Advanced Accelerator Concepts: Eleventh Workshop*, edited by V. Yakimenko (American Institute of Physics, Melville, NY, 2004), Vol. 737, pp. 585–591.

1557. M. Mikulics, M. Marso, P. Javorka, P. Kordoš, H. Lüth, M. Kočan, A. Rizzi, S. Wu, and R. Sobolewski, "Ultrafast Metal-Semiconductor-Metal Photodetectors on Low-Temperature-Grown GaN," Appl. Phys. Lett. **86**, 211110 (2005).

1556. S. Papernov and A. W. Schmid, "Two Mechanisms of Crater Formation in Ultraviolet-Pulsed-Laser Irradiated SiO_2 Thin Films with Artificial Defects," J. Appl. Phys. **97**, 114906 (2005).

1555. J. E. DeGroote, A. E. Marino, K. E. Spencer, and S. D. Jacobs, "Power Spectral Density Plots Inside MRF Spots Made with a Polishing Abrasive-Free MR Fluid," Proc. SPIE **TD03**, 134–138 (2005).

1554. T. Z. Kosc, "Particle Display Technologies Become E-Paper," Opt. Photonics News **16** (2), 18–23 (2005).

1553. X. Teng and H. Yang, "Synthesis of Platinum Multipods: An Induced Anistropic Growth," Nano Lett. **5** (5), 885–891 (2005).

1552. V. A. Smalyuk, J. A. Delettrez, S. B. Dumanis, R. Epstein, V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, C. Stoeckl, N. C. Toscano, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, and J. A. Koch, "Hot-Core Characterization of Direct-Drive Spherical Cryogenic D_2 Target Implosion," Phys. Plasmas **12**, 052706 (2005).

1551. N. G. Usechak and G. P. Agrawal, "Semi-Analytic Technique for Analyzing Mode-Locked Lasers," Opt. Express **13**, 2075 (2005).

1550. S. P. Regan, J. A. Marozas, R. S. Craxton, J. H. Kelly, W. R. Donaldson, P. A. Jaanimagi, D. Jacobs-Perkins, R. L. Keck, T. J. Kessler, D. D. Meyerhofer, T. C. Sangster, W. Seka, V. A. Smalyuk, S. Skupsky, and J. D. Zuegel, "Performance of 1-THz-Bandwidth, Two-Dimensional Smoothing by Spectral Dispersion and Polarization Smoothing of High-Power, Solid-State Laser Beams," J. Opt. Soc. Am. B **22** (5), 998–1002 (2005).

1549. V. N. Goncharov and D. Li, "Effects of Temporal Density Variation and Convergent Geometry on Nonlinear Bubble Evolution in Classical Rayleigh–Taylor Instability," Phys. Rev. E **71**, 046306 (2005).

1548. Y. Wang and H. Yang, "Synthesis of CoPt Nanorods in Ionic Liquids," J. Am. Chem. Soc. **127**, 5316–5317 (2005).

1547. J. A. Randi, J. C. Lambropoulos, and S. D. Jacobs, "Subsurface Damage in Some Single Crystalline Optical Materials," Appl. Opt. **44** (12), 2241–2249 (2005).

1546. B. Hu, R. Betti, and J. Manickam, "Application of the Low-Frequency Energy Principle to Wall Modes," Phys. Plasmas **12**, 057301 (2005).

1545. P. B. Radha, T. J. B. Collins, J. A. Delettrez, Y. Elbaz, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, J. P. Knauer, J. A. Marozas, F. J. Marshall, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, W. Seka, D. Shvarts, S. Skupsky, Y. Srebro, and C. Stoeckl, "Multidimensional Analysis of Direct-Drive, Plastic-Shell Implosions on OMEGA," Phys. Plasmas **12**, 056307 (2005).

1544. J. P. Knauer, K. Anderson, R. Betti, T. J. B. Collins, V. N. Goncharov, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, V. A. Smalyuk, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Improved Target Stability Using Picket Pulses to Increase and Shape the Ablator Adiabat," Phys. Plasmas **12**, 056306 (2005).

1543. R. S. Craxton, F. J. Marshall, M. J. Bonino, R. Epstein, P. W. McKenty, S. Skupsky, J. A. Delettrez, I. V. Igumenshchev, D. W. Jacobs-Perkins, J. P. Knauer, J. A. Marozas, P. B. Radha, and W. Seka, "Polar Direct Drive: Proof-of-Principle Experiments on OMEGA and Prospects for Ignition on the National Ignition Facility," Phys. Plasmas **12**, 056304 (2005).

1542. M. J. Moran, V. Yu. Glebov, C. Stoeckl, R. Rygg, and B.-E. Schwartz, "PROTEX: A Proton-Recoil Detector for Inertial Confinement Fusion Neutrons," Rev. Sci. Instrum. **76**, 023506 (2005).

1541. S. Kurebayashi, J. A. Frenje, F. H. Séguin, J. R. Rygg, C. K. Li, R. D. Petrasso, V. Yu. Glebov, J. A. Delettrez, T. C. Sangster, D. D. Meyerhofer, C. Stoeckl, J. M. Soures, P. A. Amendt, S. P. Hatchett, and R. E. Turner, "Using Nuclear Data and Monte Carlo Techniques to Study Areal Density and Mix in D_2 Implosions," Phys. Plasmas **12**, 032703 (2005).

1540. F. J. Marshall, R. S. Craxton, J. A. Delettrez, D. H. Edgell, L. M. Elasky, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, R. Janezic, R. L. Keck, J. D. Kilkenny, J. P. Knauer, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, S. Skupsky, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Direct-Drive, Cryogenic Target Implosions on OMEGA," Phys. Plasmas **12**, 056302 (2005) (invited).

1539. L. Guazzotto and R. Betti, "Magnetohydrodynamics Equilibria with Toroidal and Poloidal Flow," Phys. Plasmas **12**, 056107 (2005) (invited).

1538. A. P. Küng, A. Agarwal, D. F. Grosz, S. Banerjee, and D. N. Maywar, "Analytical Solution of Transmission Performance Improvement in Fiber Spans With Forward Raman Gain and Its Application to Repeaterless Systems," J. Lightwave Technol. **23** (3), 1182–1188 (2005).

1537. P. A. Jaanimagi, R. Boni, D. Butler, S. Ghosh, W. R. Donaldson, and R. L. Keck, "The Streak Camera Development Program at LLE," Proc. SPIE **5580**, 408–415 (2005).

1536. V. A. Smalyuk, V. N. Goncharov, T. R. Boehly, J. A. Delettrez, D. Y. Li, J. A. Marozas, D. D. Meyerhofer, S. P. Regan, and T. C. Sangster, "Angular Dependence of Imprinting Levels in Laser-Target Interactions on Planar CH Foils," Phys. Plasmas **12**, 040702 (2005).

1535. S. Papernov and A. W. Schmid, "High-Spatial-Resolution Studies of UV-Laser-Damage Morphology in SiO_2 Thin Films with Artificial Defects," Proc. SPIE **5647**, 141–155 (2005).

1534. A. L. Rigatti, "Cleaning Process Versus Laser-Damage Threshold of Coated Optical Components," Proc. SPIE **5647**, 136–140 (2005).

1533. J. Carpenter and S. D. Jacobs, "In the Mood for Science," SPIE's *oe*magazine, March 2005, 35–36.

1532. T. Z. Kosc, K. L. Marshall, A. Trajkovska-Petkoska, E. Kimball, and S. D. Jacobs, "Progress in the Development of Polymer Cholesteric Liquid Crystal Flakes for Display Applications," Displays **25**, 171–176 (2004).

1531. J. Sanz and R. Betti, "Analytical Model of the Ablative Rayleigh–Taylor Instability in the Deceleration Phase," Phys. Plasmas **12**, 042704 (2005).

1530. R. Betti, K. Anderson, J. Knauer, T. J. B. Collins, R. L. McCrory, P. W. McKenty, and S. Skupsky, "Theory of Laser-Induced Adiabat Shaping in Inertial Fusion Implosions: The Relaxation Method," Phys. Plasmas **12**, 042703 (2005).

1529. G. N. Gol'tsman, A. Korneev, I. Rubtsova, I. Milostnaya, G. Chulkova, O. Minaeva, K. Smirnov, B. Voronov, W. Słysz, A. Pearlman, A. Verevkin, and R. Sobolewski, "Ultrafast Superconducting Single-Photon Detectors for Near-Infrared-Wavelength Quantum Communications," Phys. Stat. Sol. C **2** (5), 1480–1488 (2005).

1528. J. E. Goldston, E. Quataert, and I. V. Igumenshchev, "Synchotron Radiation from Radiatively Inefficient Accretion Flow Simulations: Applications to Sagittarius A*," Astrophys. J. **621**, 785–792 (2005).

1527. R. S. Craxton and D. W. Jacobs-Perkins, "The Saturn Target for Polar Direct Drive on the National Ignition Facility," Phys. Rev. Lett. **94**, 095002 (2005).

1526. A. Trajkovska-Petkoska, R. Varshneya, T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, "Enhanced Electro-Optic Behavior for Shaped Polymer Cholesteric Liquid-Crystal Flakes Made Using Soft Lithography," Adv. Funct. Mater. **15** (2), 217–222 (2005).

1525. P. B. Radha, V. N. Goncharov, T. J. B. Collins, J. A. Delettrez, Y. Elbaz, V. Yu. Glebov, R. L. Keck, D. E. Keller, J. P. Knauer, J. A. Marozas, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, D. Shvarts, S. Skupsky, Y. Srebro, R. P. J. Town, and C. Stoeckl, "Two-Dimensional Simulations of Plastic-Shell, Direct-Drive Implosions on OMEGA," Phys. Plasmas **12**, 032702 (2005).

1524. J. R. Marciante, J. I. Hirsh, D. H. Raguin, and E. T. Prince, "Polarization-Insensitive High-Dispersion Total Internal Reflection Diffraction Gratings," J. Opt. Soc. Am. A **22** (2), 299–305 (2005).

1523. S. D. Jacobs, "International Innovations in Optical Finishing," Proc. SPIE **5523**, 264–272 (2004).

1522. V. Yu. Glebov, C. Stoeckl, T. C. Sangster, S. Roberts, R. A. Lerche, and G. J. Schmid, "NIF Neutron Bang Time Detector Prototype Test on OMEGA," IEEE Trans. Plasma Sci. **33** (1), 70–76 (2005).

1521. R. Rey-de-Castro, D. Wang, A. Verevkin, A. Mycielski, and R. Sobolewski, "$Cd_{1-x}Mn_xTe$ Semimagnetic Semiconductors for Ultrafast Spintronics and Magnetooptics," IEEE. Trans. Nanotech. **4** (1), 106–112 (2005).

1520. J. Zuegel, V. Bagnoud, T. Corso, P. Drew, G. J. Quarles, P. Dumas, J. T. Mooney, and S. D. O'Donohue, "Wavefront Correction Extends the Capabilities of Large-Aperture Nd:YLF Laser Rods," Laser Focus World **41** (1), 133–138 (2005).

1519. T. Yasuda, K. Fujita, T. Tsutsui, Y. Geng, S. W. Culligan, and S. H. Chen, "Carrier Transport Properties of Monodisperse Glassy-Nematic Oligofluorenes in Organic Field-Effect Transistors," Chem. Mater. **17**, 264–268 (2005).

1518. V. Bagnoud, M. J. Guardalben, J. Puth, J. D. Zuegel, T. Mooney, and P. Dumas, "High-Energy, High-Average-Power Laser with Nd:YLF Rods Corrected by Magnetorheological Finishing," Appl. Opt. **44** (2), 282–288 (2005).

1517. T. Z. Kosc, K. L. Marshall, A. Trajkovska-Petkoska, R. Varshneya, and S. D. Jacobs, "Development of Polymer Cholesteric Liquid Crystal Flakes for Electro-Optic Applications," Opt. Photonics News **15** (12), 33 (2004).

1516. S. D. Jacobs and E. Kowaluk, "Glass Art 'Sparkles' at OSA-OF&T's First Contest and Auction," OSA Focal Point Newsletter, Winter 2004.

1515. S. H. Glenzer, P. Arnold, G. Bardsley, R. L. Berger, G. Bonanno, T. Borger, D. E. Bower, M. Bowers, R. Bryant, S. Buckman, S. C. Burkhart, K. Campbell, M. P. Chrisp, B. I. Cohen, C. Constantin, F. Cooper, J. Cox, E. Dewald, L. Divol, S. Dixit, J. Duncan, D. Eder, J. Edwards, G. Erbert, B. Felker, J. Fornes, G. Frieders, D. H. Froula, S. D. Gardner, C. Gates, M. Gonzalez, S. Grace, G. Gregori, A. Greenwood, R. Griffith, T. Hall, B. A. Hammel, C. Haynam, G. Heestand, M. Henesian, G. Hermes, D. Hinkel, J. Holder, F. Holdner, G. Holtmeier, W. Hsing, S. Huber, T. James, S. Johnson, O. S. Jones, D. Kalantar, J. H. Kamperschroer, R. Kauffman, T. Kelleher, J. Knight, R. K. Kirkwood, W. L. Kruer, W. Labiak, O. L. Landen, A. B. Langdon, S. Langer, D. Latray, A. Lee, F. D. Lee, D. Lund, B. MacGowan, S. Marshall, J. McBride, T. McCarville, L. McGrew, A. J. Mackinnon, S. Mahavandi, K. Manes, C. Marshall, J. Menapace, E. Mertens, N. Meezan, G. Miller, S. Montelongo, J. D. Moody, E. Moses, D. Munro, J. Murray, J. Neumann, M. Newton, E. Ng, C. Niemann, A. Nikitin, P. Opsahl, E. Padilla, T. Parham, G. Parrish, C. Petty, M. Polk, C. Powell, I. Reinbachs, V. Rekow, R. Rinnert, B. Riordan, M. Rhodes, V. Roberts, H. Robey, G. Ross, S. Sailors, R. Saunders, M. Schmitt, M. B. Schneider, S. Shiromizu, M. Spaeth, A. Stephens, B. Still, L. J. Suter, G. Teitbohl, M. Tobin, J. Tuck, B. M. Van Wonterghem, R. Vidal, D. Voloshin, R. Wallace, P. Wegner, P. Whitman, E. A. Williams, K. Williams, K. Winward, K. Work, B. Young, P. E. Young, P. Zapata, R. E. Bahr, W. Seka, J. Fernandez, D. Montgomery, and H. Rose, "Progress in Long Scale Length Laser–Plasma Interactions," Nucl. Fusion **44**, S185–S190 (2004).

1514. C. Niemann, G. Antonini, S. Compton, S. H. Glenzer, D. Hargrove, J. D. Moody, R. K. Kirkwood, V. Rekow, J. Satariano, C. Sorce, W. Armstrong, R. Bahr, R. Keck, G. Pien, W. Seka, and K. Thorp, "Transmitted Laser Beam Diagnostic at the OMEGA Laser Facility," Rev. Sci. Instrum. **75** (10), 4171–4173 (2004).

1513. J.-C. Lin, M. Z. Yates, A. Trajkovska-Petkoska, and S. D. Jacobs, "Electric-Field-Driven Assembly of Oriented Molecular-Sieve Films," Adv. Mater. **16** (21), 1944–1948 (2004).

1512. B. Yaakobi, D. D. Meyerhofer, T. R. Boehly, J. J. Rehr, B. A. Remington, P. G. Allen, S. M. Pollaine, and R. C. Albers, "Dynamic EXAFS Probing of Laser-Driven Shock Waves and Crystal-Phase Transformations," in *Frontiers in Optics 2004* (Optical Society of America, Rochester, NY, 2004), Paper FTuN4.

1511. D. D. Meyerhofer, "Progress in Direct-Drive Inertial Confinement Fusion," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper FTuN1.

1510. S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Loose Abrasive Lapping of Optical Glass with Different Lapping Plates and Its Interpretation," in *Frontiers in Optics 2004* (Optical Society of America, Rochester, NY, 2004), Paper OMC4.

1509. V. Bagnoud, "A Front End for Multipetawatt Lasers Based on a High-Energy, High-Average-Power Optical Parametric Chirped-Pulsed Amplifier," in *Frontiers in Optics 2004* (Optical Society of America, Rochester, NY, 2004), Paper FMM2.

1508. A. Rigatti, "Cleaning Process Versus Laser Damage Threshold of Coated Optical Components," in *Frontiers in Optics 2004* (Optical Society of America, Rochester, NY, 2004), Paper OMB3.

1507. J. B. Oliver, "Thin-Film-Optics Design and Manufacturing Challenges for Large-Aperture High-Peak-Power, Short-Pulse Lasers," in *Frontiers in Optics 2004* (Optical Society of America, Rochester, NY, 2004), Paper OMB1.

1506. F. H. Mrakovcic, J. A. Randi, J. C. Lambropoulos, and S. D. Jacobs, "Subsurface Damage in Single-Crystal Sapphire," in *Frontiers in Optics 2004* (Optical Society of America, Rochester, NY, 2004), Paper OTuA6.

1505. A. E. Marino, K. Spencer, J. E. DeGroote, and S. D. Jacobs, "Chemical Durability of Phosphate Laser Glasses," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OTuA7.

1504. J. R. Marciante, J. I. Hirsch, D. H. Raguin, and E. T. Prince, "Polarization-Insensitive, High-Dispersion TIR Diffraction Gratings," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper DMA1.

1503. J. C. Lambropoulos and R. Varshneya, "Glass Material Response to the Fabrication Process: Example from Lapping," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OTuA1.

1502. I. A. Kozhinova, H. J. Romanofsky, S. D. Jacobs, W. I. Kordonski, and S. R. Gorodkin, "Polishing of Pre-Polished CVD ZnS Flats with Altered Magnetorheological (MR) Fluids," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OMD2.

1501. J. Keck, J. B. Oliver, V. Gruschow, J. Spaulding, and J. Howe, "Process Tuning of Silica Thin-Film Deposition," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OMB4.

1500. S. D. Jacobs, "Innovations in Optics Manufacturing," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OMA1.

1499. J. E. DeGroote, S. N. Shafrir, J. C. Lambropoulos, and S. D. Jacobs, "Surface Characterization of CVD ZnS Using Power Spectral Density," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OTuC2.

1498. C. Bouvier, J. C. Lambropoulos, and S. D. Jacobs, "Fracture Toughness of ULE, Zerodur, Astrosital and Corning 9600," in *Frontiers in Optics 2004*, OSA Technical Digest (Optical Society of America, Rochester, NY, 2004), Paper OTuA4.

1497. P. A. Jaanimagi, "Breaking the 100-fs Barrier with a Streak Camera," Proc. SPIE **5194**, 171–182 (2004) (invited).

1496. J. Sanz, R. Betti, R. Ramis, and J. Ramírez, "Nonlinear Theory of Ablative Rayleigh–Taylor Instability," Plasma Phys. Control. Fusion **46**, B367–B380 (2004).

1495. R. L. McCrory, "Recent Progress in Inertial Confinement Fusion in the United States," Nucl. Fusion **44**, S123–S128 (2004).

1494. A. V. Okishev and J. D. Zuegel, "Highly Stable, All-Solid-State Nd:YLF Regenerative Amplifier," Appl. Opt. **43** (33), 6180–6186 (2004).

1493. V. N. Goncharov and G. Li, "Effect of Electric Fields on Electron Thermal Transport in Laser-Produced Plasmas," Phys. Plasmas **11** (12), 5680–5689 (2004).

1492. L. Zheng, J. C. Lambropoulos, and A. W. Schmid, "UV-Laser-Induced Densification of Fused Silica: A Molecular Dynamics Study," J. Non-Cryst. Solids **347** (1–3), 144–152 (2004).

1491. S. H. Chen, "Multifunctional Glassy Liquid Crystals for Photonics," J. Soc. Inf. Disp. **12** (3), 205–211 (2004).

1490. R. Rey-de-Castro, D. Wang, X. Zheng, A. Verevkin, R. Sobolewski, M. Mikulics, R. Adam, P. Kordoš, and A. Mycielski, "Subpicosecond Faraday Effect in $Cd_{1-x}Mn_xTe$ and Its Application in Magneto-Optical Sampling," Appl. Phys. Lett. **85** (17), 3806–3808 (2004).

1489. R. W. Short and A. Simon, "Theory of Three-Wave Parametric Instabilities in Inhomogeneous Plasmas Revisited," Phys. Plasmas **11** (11), 5335–5340 (2004).

1488. A. C. A. Chen, S. Culligan, Y. Geng, S. H. Chen, K. P. Klubek, K. M. Vaeth, and C. W. Tang, "Glassy Nematic Conjugated Oligomers: Materials for Organic Light-Emitting Diodes," Proc. SPIE **5518**, 77–91 (2004).

1487. K. L. Marshall, E. Kimball, S. McNamara, T. Z. Kosc, A. Trajkovska-Petkoska, and S. D. Jacobs, "Electro-Optical Behavior of Polymer Cholesteric Liquid Crystal Flake/Fluid Suspensions in a Microencapsulation Matrix," Proc. SPIE **5518**, 170–181 (2004).

1486. F. J. Marshall, J. A. Oertel, and P. J. Walsh, "Framed, 16-Image, Kirkpatrick–Baez Microscope for Laser–Plasma X-Ray Emission," Rev. Sci. Instrum. **75** (10), 4045–4047 (2004).

1485. O. V. Gotchev, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, and D. D. Meyerhofer, "KB–PJX—A Streaked Imager Based on a Versatile X-Ray Microscope Coupled to a High-Current Streak Tube," Rev. Sci. Instrum. **75** (10), 4063–4068 (2004) (invited).

1484. S. Ghosh, R. Boni, and P. A. Jaanimagi, "Optical and X-Ray Streak Camera Gain Measurements," Rev. Sci. Instrum. **75** (10), 3956–3958 (2004).

1483. V. A. Smalyuk, V. N. Goncharov, T. R. Boehly, J. P. Knauer, D. D. Meyerhofer, and T. C. Sangster, "Self-Consistent Determination of Rayleigh–Taylor Growth Rates and Ablation-Front Density in Planar Targets Accelerated by Laser Light," Phys. Plasmas **11** (11), 5038–5040 (2004).

1482. R. Epstein, "On the Bell–Plesset Effects: The Effects of Uniform Compression and Geometrical Convergence on the Classical Rayleigh–Taylor Instability," Phys. Plasmas **11** (11), 5114–5124 (2004).

1481. C. Stoeckl, W. Theobald, T. C. Sangster, M. H. Key, P. Patel, B. B. Zhang, R. Clarke, S. Karsch, and P. Norreys, "Operation of a Single-Photon–Counting X-Ray Charge-Coupled Device Camera Spectrometer in a Petawatt Environment," Rev. Sci. Instrum. **75** (10), 3705–3707 (2004).

1480. J. P. Knauer and N. C. Gindele, "Temporal and Spectral Deconvolution of Data from Diamond, Photoconductive Devices," Rev. Sci. Instrum. **75** (10), 3714–3716 (2004).

1479. V. Yu. Glebov, C. Stoeckl, T. C. Sangster, S. Roberts, G. J. Schmid, R. A. Lerche, and M. J. Moran, "Prototypes of National Ignition Facility Neutron Time-of-Flight Detectors Tested on OMEGA," Rev. Sci. Instrum. **75** (10), 3559–3562 (2004).

1478. S. G. Lukishova, A. W. Schmid, C. M. Supranowitz, N. Lippa, A. J. McNamara, R. W. Boyd, and C. R. Stroud, Jr., "Dye-Doped Cholesteric-Liquid-Crystal Room-Temperature Single-Photon Source," J. Mod. Opt. **51** (9–10), 1535–1547 (2004).

1477. Q. Guo, X. Teng, and H. Yang, "Overpressure Contact Printing," Nano Lett. **4** (9), 1657−1662 (2004).

1476. B. Hu and R. Betti, "Resisitive Wall Mode in Collisionless Quasistationary Plasmas," Phys. Rev. Lett. **93** (10), 105002 (2004).

1475. J. Li, W. R. Donaldson, and T. Y. Hsiang, "Simulation of Submicrometer Metal–Semiconductor–Metal Ultraviolet Photodiodes on Gallium Nitride," Solid-State Electron. **48**, 2329–2334 (2004).

1474. B. A. Remington, G. Bazan, J. Belak, E. Bringa, M. Caturla, J. D. Colvin, M. J. Edwards, S. G. Glendinning, D. S. Ivanov, B. Kad, D. H. Kalantar, M. Kumar, B. F. Lasinski, K. T. Lorenz, J. M. McNaney, D. D. Meyerhofer, M. A. Meyers, S. M. Pollaine, D. Rowley, M. Schneider, J. S. Stölken, J. S. Wark, S. V. Weber, W. G. Wolfer, B. Yaakobi, and

L. V. Zhigilei, "Materials Science Under Extreme Conditions of Pressure and Strain Rate," Metall. Mater. Trans. A, **35A** (9), 2587–2607 (2004).

1473. Q. Guo, X. Teng, and H. Yang, "Fabrication of Magnetic FePt Patterns from Langmuir–Blodgett Films of Platinum–Iron Oxide Core–Shell Nanoparticles," Adv. Mater. **16** (15), 1337–1341 (2004).

1472. T. R. Boehly, D. G. Hicks, P. M. Celliers, T. J. B. Collins, R. Earley, J. H. Eggert, D. Jacobs-Perkins, S. J. Moon, E. Vianello, D. D. Meyerhofer, and G. W. Collins, "Properties of Fluid Deuterium Under Double-Shock Compression to Several Mbar," Phys. Plasmas **11** (9), L49–L52 (2004).

1471. A. Verevkin, A. Pearlman, W. Slysz, J. Zhang, M. Currie, A. Korneev, G. Chulkova, O. Okunev, P. Kouminov, K. Smirnov, B. Voronov, G. N. Gol'tsman, and R. Sobolewski, "Ultrafast Superconducting Single-Photon Detectors for Near-Infrared-Wavelength Quantum Communications," J. Mod. Opt. **51** (9–10), 1447–1458 (2004).

1470. J. A. Koch, T. W. Barbee, Jr., S. Dalhed, S. Haan, N. Izumi, R. W. Lee, L. A. Welser, R. C. Mancini, F. J. Marshall, T. C. Sangster, V. A. Smalyuk, J. M. Soures, and L. Klein, "Core Temperature and Density Profiles from Multispectral Imaging of ICF Plasmas," in *Inertial Fusion Sciences and Applications 2003*, edited by B. A. Hammel, D. D. Meyerhofer, J. Meyer-ter-Vehn, and H. Azechi (American Nuclear Society, La Grange Park, IL, 2004), pp. 857–861.

1469. D. F. Grosz, D. N. Maywar, A. P. Küng, A. Agarwal, and S. Banerjee, "Performance of Non-Fibre Based Dispersion Compensation for Long-Haul 10.7 Gbit/s DWDM Transmission," Electron. Lett. **40** (13), 825–827 (2004).

1468. R. L. McCrory, "Progress in Inertial Confinement Fusion in the United States," in *Inertial Fusion Sciences and Applications 2003*, edited by B. A. Hammel, D. D. Meyerhofer, J. Meyer-ter-Vehn, and H. Azechi (American Nuclear Society, La Grange Park, IL, 2004), pp. 3–8.

1467. S. Skupsky, R. Betti, T. J. B. Collins, V. N. Goncharov, J. A. Marozas, P. W. McKenty, P. B. Radha, T. R. Boehly, J. P. Knauer, F. J. Marshall, D. R. Harding, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, "Advanced Direct-Drive Target Designs for the NIF," in *Inertial Fusion Sciences and Applications 2003*, edited by B. A. Hammel, D. D. Meyerhofer, J. Meyer-ter-Vehn, and H. Azechi (American Nuclear Society, La Grange Park, IL, 2004), pp. 61–64.

1466. V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Keegan, J. Puth, L. J. Waxer, and J. D. Zuegel, "Optical Parametric Chirped-Pulse Amplifier as the Front End for the OMEGA EP Laser Chain," in *Inertial Fusion Sciences and Applications 2003*, edited by B. A. Hammel, D. D. Meyerhofer, J. Meyer-ter-Vehn, and H. Azechi (American Nuclear Society, La Grange Park, IL, 2004), pp. 670–673.

1465. T. J. Kessler, J. Bunkenburg, H. Huang, A. Kozlov, C. Kelly, and D. D. Meyerhofer, "The Coherent Addition of Gratings for Pulse Compression in High-Energy Laser Systems," in *Inertial Fusion Sciences and Applications 2003*, edited by B. A. Hammel,

D. D. Meyerhofer, J. Meyer-ter-Vehn, and H. Azechi (American Nuclear Society, La Grange Park, IL, 2004), pp. 621–625.

1464. T. J. B. Collins, S. Skupsky, V. N. Goncharov, R. Betti, P. W. McKenty, P. B. Radha, R. Epstein, A. Poludnenko, A. Frank, and S. Mitran, "High-Gain, Direct-Drive Foam Target Designs for the National Ignition Facility," in *Inertial Fusion Sciences and Applications 2003*, edited by B. A. Hammel, D. D. Meyerhofer, J. Meyer-ter-Vehn, and H. Azechi (American Nuclear Society, La Grange Park, IL, 2004), pp. 92–95.

1463. T. Z. Kosc, K. L. Marshall, and S. D. Jacobs, "Polymer Cholesteric Liquid Crystal Flake Particle Displays Utilizing Maxwell–Wagner Polarization Effects for Switching," in the *Conference Record of the 23rd International Display Research Conference* (Society for Information Display, San Jose, CA, 2003), pp. 237–239.

1462. J.-R. Park, W. R. Donaldson, R. Boni, and R. Sobolewski, "Characterization of Single and Double Fiber-Coupled Diffusing Spheres," Appl. Opt. **43** (20), 3967–3970 (2004).

1461. S. D. Jacobs, "Innovations in Polishing of Precision Optics," in *International Progress on Advanced Optics and Sensors,* Frontiers Science Series, Vol. 40, edited by H. Ohmori and H. M. Shimizu (Universal Academy Press, Tokyo, Japan, 2003), pp. 3–14.

1460. J. B. Oliver and D. Talbot, "Optimization of Deposition Uniformity for Large Aperture Substrates in a Planetary Rotation System," in the *46th Annual Technical Conference Proceedings* (Society of Vacuum Coaters, Albuquerque, NM, 2003), CD-ROM, pp. 353–358.

1459. A. Korneev, P. Kouminov, V. Matvienko, G. Chulkova, K. Smirnov, B. Voronov, G. N. Gol'tsman, M. Currie, W. Lo, K. Wilsher, J. Zhang, W. Slysz, A. Pearlman, A. Verevkin, and R. Sobolewski, "Sensitivity and Gigahertz Counting Performance of NbN Superconducting Single-Photon Detectors," Appl. Phys. Lett. **84** (26), 5338–5340 (2004).

1458. I. A. Begishev, V. Bagnoud, M. J. Guardalben, J. Puth, L. J. Waxer, and J. D. Zuegel, "Parasitic Second-Harmonic Generation in Optical Parametric Chirped-Pulse Amplification," in OSA *Trends in Optics and Photonics (TOPS) Vol. 94, Advanced Solid-State Photonics*, edited by G. J. Quarles (Optical Society of America, Washington, DC, 2004), pp. 32–34.

1457. J. Myatt, A. V. Maximov, W. Seka, R. S. Craxton, and R. W. Short, "Modeling Stimulated Brillouin Scattering in the Underdense Corona of a Direct Drive Inertial Confinement Fusion Target," Phys. Plasmas **11** (7), 3394–3403 (2004).

1456. B. Buerke and D. D. Meyerhofer, "Measurement of Hydrogenic Tunneling Rates in a High-Intensity Laser Focus," Phys. Rev. A **69** (5), 051402 (2004).

1455. D. F. Grosz, A. Agarwal, A. P. Küng, S. Banerjee, D. N. Maywar, and T. H. Wood, "Performance of a ULH Single Wide-Band All-Raman DWDM Transmission System Over Dispersion-Managed Spans," IEEE Photonics Technol. Lett. **16** (4), 1197–1199 (2004).

1454. L. Veisz, W. Theobald, T. Feurer, H. Schwoerer, I. Uschmann, O. Renner, and R. Sauerbrey, "Three-Halves-Harmonic Emission from Femtosecond Laser Produced Plasmas with Steep Density Gradients," Phys. Plasmas **11** (6), 3311–3323 (2004).

1453. B. Hou, J. A. Nees, W. Theobald, G. A. Mourou, L. M. Chen, J.-C. Kieffer, A. Krol, and C. C. Chamberlain, "Dependence of Hard X-Ray Yield on Laser Pulse Parameters in the Wavelength-Cubed Regime," Appl. Phys. Lett. **84** (13), 2259–2261 (2004).

1452. J. E. DeGroote, H. J. Romanofsky, I. A. Kozhinova, J. M. Schoen, and S. D. Jacobs, "Polishing PMMA and Other Optical Polymers with Magnetorheological Finishing," Proc. SPIE **5180**, 123–134 (2003).

1451. L. L. Gregg, A. E. Marino, J. C. Hayes, and S. D. Jacobs, "Grain Decoration in Aluminum Oxynitride (ALON) from Polishing on Bound Abrasive Laps," Proc. SPIE **5180**, 47–54 (2003).

1450. C. R. Christensen, D. C. Wilson, C. W. Barnes, G. P. Grim, G. L. Morgan, M. D. Wilke, F. J. Marshall, V. Yu. Glebov, and C. Stoeckl, "The Influence of Asymmetry on Mix in Direct-Drive Inertial Confinement Fusion Experiments," Phys. Plasmas **11** (5), 2771–2777 (2004).

1449. D. C. Wilson, C. W. Cranfill, C. Christensen, R. A. Forster, R. R. Peterson, N. M. Hoffman, G. D. Pollak, C. K. Li, F. H. Séguin, J. A. Frenje, R. D. Petrasso, P. W. McKenty, F. J. Marshall, V. Yu. Glebov, C. Stoeckl, G. J. Schmid, N. Izumi, and P. Amendt, "Multifluid Interpenetration Mixing in Directly Driven Inertial Confinement Fusion Capsule Implosions," Phys. Plasmas **11** (5), 2723–2728 (2004).

1448. L. Disdier, R. A. Lerche, J. L. Bourgade, and V. Yu. Glebov, "Capillary Detector with Deuterated Scintillator for Inertial Confinement Fusion Neutron Images," Rev. Sci. Instrum. **75** (6), 2134–2139 (2004).

1447. A. C. A. Chen, S. W. Culligan, Y. Geng, S. H. Chen, K. P. Klubek, K. M. Vaeth, and C. W. Tang, "Organic Polarized Light-Emitting Diodes via Förster Energy Transfer Using Monodisperse Conjugated Oligomers," Adv. Mater. 16 (9–10), 783–788 (2004).

1446. C. K. Li, F. H. Séguin, J. A. Frenje, R. D. Petrasso, J. A. Delettrez, P. W. McKenty, T. C. Sangster, R. L. Keck, J. M. Soures, F. J. Marshall, D. D. Meyerhofer, V. N. Goncharov, J. P. Knauer, P. B. Radha, S. P. Regan, and W. Seka, "Effects of Nonuniform Illumination on Implosion Asymmetry in Direct-Drive Inertial Confinement Fusion," Phys. Rev. Lett. **92** (20), 205001 (2004).

1445. S. P. Regan, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, J. M. Soures, V. A. Smalyuk, P. B. Radha, B. Yaakobi, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, D. A. Haynes, Jr., J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Dependence of Shell Mix on Feedthrough in Direct Drive Inertial Confinement Fusion," Phys. Rev. Lett. **92** (18), 185002 (2004).

1444. A. V. Maximov, J. Myatt, W. Seka, R. W. Short, and R. S. Craxton, "Modeling of Stimulated Brillouin Scattering Near the Critical-Density Surface in the Plasmas of

Direct-Drive Inertial Confinement Fusion Targets," Phys. Plasmas **11** (6), 2994–3000 (2004).

1443. J. A. Frenje, C. K. Li, F. H. Séguin. J. Deciantis, S. Kurebayashi, J. R. Rygg, R. D. Petrasso, J. Delettrez, V. Yu. Glebov, C. Stoeckl, F. J. Marshall, D. D. Meyerhofer, T. C. Sangster, V. A. Smalyuk, and J. M. Soures, "Measuring Shock-Bang Timing and ρR Evolution of D^3He Implosions at OMEGA," Phys. Plasmas **11** (5), 2798–2805 (2004) (invited).

1442. B. Yaakobi, D. D. Meyerhofer, T. R. Boehly, J. J. Rehr, B. A. Remington, P. G. Allen, S. M. Pollaine, and R. C. Albers, "Extended X-Ray Absorption Fine Structure Measurements of Laser Shocks in Ti and V and Phase Transformation in Ti," Phys. Plasmas **11** (5), 2688–2695 (2004) (invited).

1441. P. W. McKenty, T. C. Sangster, M. Alexander, R. Betti, R. S. Craxton, J. A. Delettrez, L. Elasky, R. Epstein, A. Frank, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, S. Jin, J. P. Knauer, R. L. Keck, S. J. Loucks, L. D. Lund, R. L. McCrory, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, K. A. Thorp, M. Wozniak, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. A. Fletcher, S. Padalino, C. Freeman, N. Izumi, J. A. Koch, R. A. Lerche, M. J. Moran, T. W. Phillips, G. J. Schmid, and C. Sorce, "Direct-Drive Cryogenic Target Implosion Performance on OMEGA," Phys. Plasmas **11** (5), 2790–2797 (2004) (invited).

1440. S. Skupsky, J. A. Marozas, R. S. Craxton, R. Betti, T. J. B. Collins, J. A. Delettrez, V. N. Goncharov, P. W. McKenty, P. B. Radha, T. R. Boehly, J. P. Knauer, F. J. Marshall, D. R. Harding, J. D. Kilkenny, D. D. Meyerhofer, T. C. Sangster, and R. L. McCrory, "Polar Direct Drive on the National Ignition Facility," Phys. Plasmas **11** (5), 2763–2770 (2004) (invited).

1439. D. F. Grosz, A. Agarwal, S. Banerjee, D. N. Maywar, and A. P. Küng, "All-Raman Ultralong-Haul Single-Wideband DWDM Transmission Systems with OADM Capability," J. Lightwave Technol. **22** (2), 423–432 (2004).

1438. T. Kosteski, N. P. Kherani, P. Stradins, F. Gasparii, W. T. Shmayda, L. S. Sidhu, and S. Zukotynski, "Tritiated Amorphous Silicon Betavoltaic Devices," IEE Proc.-Circuits Devices Syst. **150** (4), 274–281 (2003).

1437. T. J. B. Collins, J. P. Knauer, R. Betti, T. R. Boehly, J. A. Delettrez, V. N. Goncharov, D. D. Meyerhofer, P. W. McKenty, S. Skupsky, and R. P. J. Town, "Reduction of the Ablative Rayleigh–Taylor Growth Rate with Gaussian Picket Pulses," Phys. Plasmas **11** (4), 1569–1576 (2004).

1436. J. D. Zuegel and D. W. Jacobs-Perkins, "Efficient, High-Frequency Bulk Phase Modulator," Appl. Opt. **43** (9), 1946–1950 (2004).

1435. J. Li, Y. Xu, T. Y. Hsiang, and W. R. Donaldson, "Picosecond Response of Gallium-Nitride Metal–Semiconductor–Metal Photodetectors," Appl. Phys. Lett. **84** (12), 2091–2093 (2004).

1434. A. K. Knight, F.-Y. Tsai, M. J. Bonino, and D. R. Harding, "Suitability of Different Polyimide Capsule Materials for Use as ICF Targets," Fusion Sci. Technol. **45** (2), 187–196 (2004).

1433. E. L. Alfonso, R. Q. Gram, and D. R. Harding, "Modeling Temperature and Pressure Gradients During Cooling of Thin-Walled Cryogenic Targets," Fusion Sci. Technol. **45** (2), 218–228 (2004).

1432. J. R. Marciante and D. H. Raguin, "High-Efficiency, High-Dispersion Diffraction Gratings Based on Total Internal Reflection," Opt. Lett. **29** (6), 542–544 (2004).

1431. T. J. Kessler, J. Bunkenburg, H. Huang, A. Kozlov, and D. D. Meyerhofer, "Demonstration of Coherent Addition of Multiple Gratings for High-Energy Chirped-Pulse-Amplified Lasers," Opt. Lett. **29** (6), 635–637 (2004).

1430. S. G. Lukishova, A. W. Schmid, A. J. McNamara, R. W. Boyd, and C. R. Stroud, Jr., "Room Temperature Single-Photon Source: Single-Dye Molecule Fluorescence in Liquid Crystal Host," IEEE J. Sel. Top. Quantum Electron. **9** (6), 1512–1518 (2003).

1429. B. Yaakobi, D. D. Meyerhofer, T. R. Boehly, J. J. Rehr, B. A. Remington, P. G. Allen, S. M. Pollaine, and R. C. Albers, "Extended X-Ray Absorption Fine Structure Measurements of Laser-Shocked V and Ti and Crystal Phase Transformation in Ti," Phys. Rev. Lett. **92** (9), 095504 (2004).

1428. C. Dorrer and D. N. Maywar, "RF Spectrum Analysis of Optical Signals Using Nonlinear Optics," J. Lightwave Technol. **22** (1), 266–274 (2004).

1427. T. I. Lakoba, C. Dorrer, and D. N. Maywar, "Polarization-Mode Dispersion of a Circulating Loop," J. Opt. Soc. Am. B **21** (2), 243–248 (2004).

1426. X. Teng and H. Yang, "Effects of Surfactants and Synthetic Conditions on the Sizes and Self-Assembly of Monodisperse Iron Oxide Nanoparticles," J. Mater. Chem. **14** (4), 774–779 (2004).

1425. V. Bagnoud and J. D. Zuegel, "Independent Phase and Amplitude Control of a Laser Beam by Use of a Single-Phase-Only Spatial Light Modulator," Opt. Lett. **29** (3), 295–297 (2004).

1424. L. Guazzotto, R. Betti, J. Manickam, and S. Kaye, "Numerical Study of Tokamak Equilibria with Arbitrary Flow," Phys. Plasmas **11** (2), 604–614 (2004).

1423. A. Agarwal, S. Banerjee, D. F. Grosz, A. P. Küng, D. N. Maywar, and T. H. Wood, "Ultralong-Haul Transmission of 40-Gb/s RZ-DPSK in a 10/40 G Hybrid System Over 2500 km of NZ-DSF," IEEE Photonics Technol. Lett. **15** (12), 1779–1781 (2003).

1422. J. Leuthold, R. Ryf, D. N. Maywar, S. Cabot, J. Jaques, and S. S. Patel, "Nonblocking All-Optical Cross Connect Based on Regenerative All-Optical Wavelength Converter in a Transparent Demonstration Over 42 Nodes and 16800 km," J. Lightwave Technol. **21** (11), 2863–2870 (2003).

1421. K. L. Marshall, B. Schudel, and I. A. Lippa, "Transition Metal Dithiolene Complexes as Near-IR Dyes for Liquid Crystal Device Applications," Proc. SPIE **5213**, 201–212 (2003).

1420. J. D. Lindl, B. A. Hammel, B. G. Logan, D. D. Meyerhofer, S. A. Payne, and J. D. Sethian, "The US Inertial Confinement Fusion (ICF) Ignition Programme and the Inertial Fusion Energy (IFE) Programme," Plasma Phys. Control. Fusion **45** (12A), A217–A234 (2003).

1419. R. Narayan, I. V. Igumenshchev, and M. A. Abramowicz, "Magnetically Arrested Disk: An Energetically Efficient Accretion Flow," Publ. Astron. Soc. Jpn. **55**, L69–L72 (2003).

1418. J. Zhang, N. Boiadjieva, G. Chulkova, H. Deslandes, G. N. Gol'tsman, A. Korneev, P. Kouminov, M. Leibowitz, W. Lo, R. Malinsky, O. Okunev, A. Pearlman, W. Slysz, K. Smirnov, C. Tsao, A. Verevkin, B. Voronov, K. Wilsher, and R. Sobolewski, "Noninvasive CMOS Circuit Testing with NbN Superconducting Single-Photon Detectors," Electron. Lett. **39** (14), 1086–1088 (2003).

1417. K. L. Marshall, B. Klehn, B. Watson, and D. W. Griffin, "Recent Advances in the Development of Phase-Shifting Liquid Crystal Interferometers for Visible and Near-IR Applications," Proc. SPIE **5188**, 48–60 (2003).

1416. F. J. Marshall, J. A. Delettrez, R. Epstein, R. Forties, R. L. Keck, J. H. Kelly, P. W. McKenty, S. P. Regan, and L. J. Waxer, "Direct-Drive-Implosion Experiments with Enhanced Fluence Balance on OMEGA," Phys. Plasmas **11** (1), 251–259 (2004).

1415. K. Anderson and R. Betti, "Laser-Induced Adiabat Shaping by Relaxation in Inertial Fusion Implosions," Phys. Plasmas **11** (1), 5–8 (2004).

1414. O. V. Gotchev, L. J. Hayes, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, and D. D. Meyerhofer, "Large-Grazing-Angle, Multi-Image Kirkpatrick–Baez Microscope as the Front End to a High-Resolution Streak Camera for OMEGA," Rev. Sci. Instrum. **74** (12), 5065–5069 (2003).

1413. X. Teng and H. Yang, "Synthesis of Face-Centered Tetragonal FePt Nanoparticles and Granular Films from Pt@Fe_2O_3 Core–Shell Nanoparticles," J. Am. Chem. Soc. **125** (47), 14,559–14,563 (2003).

1412. X. Z. Lin, X. Teng, and H. Yang, "Direct Synthesis of Narrowly Dispersed Silver Nanoparticles Using a Single-Source Precursor," Langmuir **19** (24), 10,081–10,085 (2003).

1411. Y. Wang, J. F. Wong, X. Teng, X. Z. Lin, and H. Yang, " 'Pulling' Nanoparticles into Water: Phase Transfer of Oleic Acid Stabilized Monodisperse Nanoparticles into Aqueous Solutions of α-Cyclodextrin," Nano Lett. **3** (11), 1555–1559 (2003).

1410. Y. Geng, A. Trajkovska, S. W. Culligan, J. J. Ou, H. M. P. Chen, D. Katsis, and S. H. Chen, "Origin of Strong Chiroptical Activities in Films of Nonafluorenes with a Varying Extent of Pendant Chirality," J. Am. Chem. Soc. **125** (46), 14,032–14,038 (2003).

1409. Y. Geng, A. C. A. Chen, J. J. Ou, S. H. Chen, K. Klubek, K. M. Vaeth, and C. W. Tang, "Monodisperse Glassy-Nematic Conjugated Oligomers with Chemically Tunable Polarized Light Emission," Chem. Mater. **15** (23), 4352–4360 (2003).

1408. Y. Xu, M. Khafizov, L. Satrapinsky, P. Kúš, A. Plecenik, and R. Sobolewski, "Time-Resolved Photoexcitation of the Superconducting Two-Gap State in MgB_2 Thin Films," Phys. Rev. Lett. **91** (19), 197004 (2003).

1407. Q. Guo, X. Teng, and H. Yang, "Surface Patterns of Tetragonal Phase FePt Thin Films from $Pt@Fe_2O_3$ Core-Shell Nanoparticles Using Combined Langmuir-Blodgett and Soft Lithographic Techniques," in *Unconventional Approaches to Nanostructures with Applications in Electronics, Photonics, Information Storage and Sensing*, edited by O. D. Velev, T. J. Bunning, Y. Xia, and P. Yang, Mat. Res. Soc. Symp. Proc. Vol. 776 (Materials Research Society, Warrendale, PA, 2003), pp. 187–192.

1406. D. N. Maywar, S. Banerjee, A. Agarwal, D. F. Grosz, M. Movassaghi, A. P. Küng, and T. H. Wood, "Impact of Relaxed Dispersion Map and Gain Ripple on Ultra-Wideband 10-Gb/s Transmission," Electron. Lett. **39** (17), 1266–1267 (2003).

1405. I. Begishev, V. Bagnoud, M. Guardalben, L. Waxer, J. Puth, and J. Zuegel, "Optimization of an Optical Parametric Chirped Pulse Amplification System for the OMEGA EP Laser System," in *Advanced Solid-State Photonics, OSA Technical Digest* (Optical Society of America, Washington, DC, 2003), pp. 252–254.

1404. K. Anderson and R. Betti, "Theory of Laser-Induced Adiabat Shaping in Inertial Fusion Implosions: The Decaying Shock," Phys. Plasmas **10** (11), 4448–4462 (2003).

1403. M. J. Guardalben, J. Keegan, L. J. Waxer, V. Bagnoud, I. A. Begishev, J. Puth, and J. D. Zuegel, "Design of a Highly Stable, High-Conversion-Efficiency, Optical Parametric Chirped-Pulse Amplification System with Good Beam Quality," Opt. Express **11** (20), 2511–2524 (2003).

1402. M. Mikulics, M. Marso, P. Kordoš, S. Stanček, P. Kováč, X. Zheng, S. Wu, and R. Sobolewski, "Ultrafast and Highly Sensitive Photodetectors Fabricated on High-Energy Nitrogen-Implanted GaAs," Appl. Phys. Lett. **83** (9), 1719–1721 (2003).

1401. A. Sunahara, J. A. Delettrez, C. Stoeckl, R. W. Short, and S. Skupsky, "Time-Dependent Electron Thermal Flux Inhibition in Direct-Drive Laser Implosions," Phys. Rev. Lett. **91** (9), 095003 (2003).

1400. I. V. Igumenshchev, R. Narayan, and M. A. Abramowicz, "Three-Dimensional Magnetohydrodynamic Simulations of Radiatively Inefficient Accretion Flows," Astrophys. J. **592**, 1042–1059 (2003).

1399. L. J. Waxer, V. Bagnoud, I. A. Begishev, M. J. Guardalben, J. Puth, and J. D. Zuegel, "High-Conversion-Efficiency Optical Parametric Chirped-Pulse Amplification System Using Spatiotemporally Shaped Pump Pulses," Opt. Lett. **28** (14), 1245–1247 (2003).

1398. A. Jukna and R. Sobolewski, “Time-Resolved Photoresponse in the Resistive Flux-Flow State in Y-Ba-Cu-O Superconducting Microbridges,” Supercond. Sci. Technol. **16** (8), 911–915 (2003).

1397. J. Li, W. R. Donaldson, and T. Y. Hsiang, “Very Fast Metal–Semiconductor–Metal Ultraviolet Photodetectors on GaN with Submircon Finger Width,” IEEE Photonics Technol. Lett. **15** (8), 1141–1143 (2003).

1396. S. W. Culligan, Y. Geng, S. H. Chen, K. Klubek, K. M. Vaeth, and C. W. Tang, “Strongly Polarized and Efficient Blue Organic Light-Emitting Diodes Using Monodisperse Glassy Nematic Oligo(fluorene)s,” Adv. Mater. **15** (14), 1176–1180 (2003).

1395. J. Zhang, W. Slysz, A. Verevkin, O. Okunev, G. Chulkova, A. Korneev, A. Lipatov, G. N. Gol’tsman, and R. Sobolewski, “Response Time Characterization of NbN Superconducting Single-Photon Detectors,” IEEE Trans. Appl. Supercond. **13** (2), 180–183 (2003).

1394. G. N. Gol’tsman, K. Smirnov, P. Kouminov, B. Voronov, N. Kaurova, V. Drakinsky, J. Zhang, A. Verevkin, and R. Sobolewski, “Fabrication of Nanostructured Superconducting Single-Photon Detectors,” IEEE Trans. Appl. Supercond. **13** (2), 192–195 (2003).

1393. R. Sobolewski, A. Verevkin, G. N. Gol’tsman, A. Lipatov, and K. Wilsher, “Ultrafast Superconducting Single-Photon Optical Detectors and Their Applications,” IEEE Trans. Appl. Supercond. **13** (2), 1151–1157 (2003).

1392. Y. Xu, M. Khafizov, A. Plecenik, P. Kúš, L. Satrapinsky, and R. Sobolewski, “Femtosecond Optical Characterization of MgB_2 Superconducting Thin Films,” IEEE Trans. Appl. Supercond. **13** (2), 3316–3319 (2003).

1391. C. Dorrer and D. N. Maywar, “Ultra-High Bandwidth RF Spectrum Analyser for Optical Signals,” Electron. Lett. **39** (13), 1004–1005 (2003).

1390. A. Nobile, H. Reichert, R. T. Janezic, D. R. Harding, L. D. Lund, and W. T. Shmayda, “Design of the OMEGA Laser Target Chamber Tritium Removal System,” Fusion Sci. Technol. **43** (4), 522–539 (2003).

1389. J. Sternal, S. N. Shafrir, J. A. Randi, L. L. Gregg, and S. D. Jacobs, “Refractive Index Anisotropy in Optics Using a Birefringence Mapper,” Proc. SPIE **TD02**, 125–127 (2003).

1388. R. Varshneya, J. E. DeGroote, L. L. Gregg, and S. D. Jacobs, “Characterizing Optical Polishing Pitch,” Proc. SPIE **TD02**, 87–89 (2003).

1387. J. A. Randi, J. C. Lambropoulos, S. D. Jacobs, and S. N. Shafrir, “Determination of Subsurface Damage in Single Crystalline Optical Materials,” Proc. SPIE **TD02**, 84–86 (2003).

1386. A. E. Marino, J. Hayes, L. L. Gregg, and S. D. Jacobs, "Grain Decoration in Aluminum Oxynitride (ALON) from Polishing on Bound Abrasive Laps," Proc. SPIE **TD02**, 81–83 (2003).

1385. J. C. Lambropoulos and S. D. Jacobs, "Polishing Rate of Fused Silica, Compared to Glasses BK7 and SF6," Proc. SPIE **TD02**, 75–78 (2003).

1384. J. E. DeGroote, S. D. Jacobs, J. M. Schoen, H. J. Romanofsky, and I. A. Kozhinova, "Magnetorheological Finishing of a Diamond Turned Poly(Methylmethacrylate) Flat," Proc. SPIE **TD02**, 65–68 (2003).

1383. A. E. Schoeffler, L. L. Gregg, J. M. Schoen, E. Fess, M. Hakiel, and S. D. Jacobs, "Pre-Polishing on a CNC Platform with Bound Abrasive Contour Tools," Proc. SPIE **TD02**, 24–27 (2003).

1382. Y. Xu, M. Khafizov, A. Plecenik, P. Kúš, L. Satrapinsky and R. Sobolewski, "Fabrication and Femtosecond Photoresponse Studies of MgB_2 Superconducting Thin Films," Proc. SPIE **4811**, 277–287 (2002) (invited).

1381. M. L. Schneider, S. Rast, M. Onellion, J. Demsar, A. J. Taylor, Yu D. Glinka, N. H. Tolk, Y. H. Ren, G. Lüpke, A. Klimov, Y. Xu, R. Sobolewski, Weidong Si, X. H. Zeng, A. Soukiassian, X. Xi, M. Abrecht, D. Ariosa, D. Pavuna, R. Manzke, J. O. Printz, D. K. Parkhurst, K. E. Downum, P. Guptasarma, and I. Bozovic, "Low and High Fluence Femtosecond Optical Studies of Cuprates," Proc. SPIE **4811**, 174–181 (2002) (invited).

1380. A. Plecenik, P. Kus, L. Satrapinsky, Y. Xu, and R. Sobolewski, "Fabrication and Transport Properties of MgB_2 Thin Films and Tunnel Junctions," J. Supercond. **15 (**6), 621–625 (2002).

1379. A. Verevkin, J. Zhang, W. Słysz, R. Sobolewski, A. Lipatov, O. Okunev, G. Chulkova, A. Korneev, and G. N. Gol'tsman, "Superconducting Single-Photon Detectors for GHz-Rate Free-Space Quantum Communications," Proc. SPIE **4821**, 447–454, (2002) (invited).

1378. L. Satrapinsky, A. Plecenik, P. Kúš, V. Jacko, M. Gregor, A. Halabica, M. Hain, Y. Xu, and R. Sobolewski, "Study of MgB_2 Superconducting Thin Films Properties by Tunneling Spectroscopy," Solid State Phenom. **90–91**, 583–588 (2003).

1377. X. Zheng, S. Wu, R. Adam, M. Mikulics, A. Förster, J. Schelten, M. Siegel, P. Kordoš, and R Sobolewski, "Ultrafast Photoresponse and Fabrication of Freestanding LT-GaAs Photoconductive Devices," Proc. SPIE **5123**, 69–79 (2003).

1376. R. Sobolewski, J. Zhang, W. Slysz, A. Pearlman, A. Verevkin, A. Lipatov, O. Okunev, G. Chulkova, A. Korneev, K. Smirnov, P. Kouminov, B. Voronov, N. Kaurova, V. Drakinsky, and G. N. Gol'tsman, "Ultrafast Superconducting Single-Photon Optical Detectors," (Plenary Lecture) Proc. SPIE **5123**, 2–12 (2003).

1375. M. Mikulics, X. Zheng, R. Adam, R. Sobolewski, and P. Kordoš, "High-Speed Photoconductive Switch Based on Low-Temperature GaAs Transferred on SiO_2–Si Substrate," IEEE Photonics Technol. Lett. **15** (4), 528–530 (2003).

1374. M. L. Schneider, J. Demsar, Y. Glinka, A. Klimov, A. Krapf, S. Rast, Y. H. Ren, W. Si, Y. Xu, X. H. Zheng, I. Bozovic, G. Lüpke, R. Manzke, R. Sobolewski, A. T. Taylor, N. H. Tolk, X. X. Xi, R. Joynt, and M. Onellion, "Ultrafast Carrier Relaxation Dynamics in Single-Layer Cuprates," Europhys. Lett. **60** (3), 460–466 (2002).

1373. A. Lipatov, O. Okunev, K. Smirnov, G. Chulkova, A. Korneev, P. Kouminov, G. Gol'tsman, J. Zhang, W. Slysz, A. Verevkin, and R. Sobolewski, "An Ultrafast NbN Hot-Electron Single-Photon Detector for Electronic Applications," Supercond. Sci. Technol. **15** (12), 1689–1692 (2002).

1372. R. Adam, M. Mikulics, A. Förster, J. Schelten, M. Siegel, P. Kordoš, X. Zheng, S. Wu, and R. Sobolewski, "Fabrication and Subpicosecond Optical Response of Low-Temperature-Grown GaAs Freestanding Photoconductive Devices," Appl. Phys. Lett. **81** (18), 3485–3487 (2002).

1371. T. Z, Kosc, K. L. Marshall, and S. D. Jacobs, "Polymer Cholesteric Liquid Crystal Flakes for Particle Displays," in *2003 SID International Symposium, Digest of Technical Papers*, 1st ed., edited by J. Morreale (Society for Information Display, San Jose, CA, 2003), Vol. 34, Book 1, pp. 581–583.

1370. S. H. Chen, H. M. P. Chen, Y. Geng, S. D. Jacobs, K. L. Marshall, and T. N. Blanton, "Novel Glassy Nematic Liquid Crystals for Non-Destructive Rewritable Optical Memory and Photonic Switching," Adv. Mater. **15** (13), 1061–1065 (2003).

1369. H. M. P. Chen, D. Katsis, and S. H. Chen, "Deterministic Synthesis and Optical Properties of Glassy Chiral-Nematic Liquid Crystals," Chem. Mater. **15** (13), 2534–2542 (2003).

1368. S. Papernov and A. W. Schmid, "Damage Behavior of SiO_2 Thin Films Containing Gold Nanoparticles Lodged at Predetermined Distances from the Film Surface," Proc. SPIE **4932**, 66–74 (2003).

1367. E. A. Startsev and C. J. McKinstrie, "Particle-in-Cell Simulations of Ponderomotive Particle Acceleration in a Plasma," Phys. Plasmas **10** (6), 2552–2558 (2003).

1366. C. Stoeckl, R. E. Bahr, B. Yaakobi, W. Seka, S. P. Regan, R. S. Craxton, J. A. Delettrez, R. W. Short, J. Myatt, A. V. Maximov, and H. Baldis, "Multibeam Effects on Fast-Electron Generation from Two-Plasmon-Decay Instability," Phys. Rev. Lett. **90** (23), 235002 (2003).

1365. Y. Wang, X. Teng, J.-S. Wang, and H. Yang, "Solvent-Free Atom Transfer Radical Polymerization in the Synthesis of Fe_2O_3@Polystyrene Core–Shell Nanoparticles," Nano Lett. **3** (6), 789–793 (2003).

1364. J. Zhang, W. Slysz, A. Pearlman, A. Verevkin, R. Sobolewski, O. Okunev, G. Chulkova, and G. N. Gol'tsman, "Time Delay of Resistive-State Formation in Superconducting Stripes Excited by Single Optical Photons," Phys. Rev. B **67**, 132508 (2003).

1363. L. Disdier, A. Rouyer, A. Fedotoff, J.-L. Bourgade, F. J. Marshall, V. Yu. Glebov, and C. Stoeckl, "Neutron Imaging of ICF Target Plasmas," Rev. Sci. Instrum. **74** (3), 1832–1836 (2003) (invited).

1362. V. A. Smalyuk, J. A. Delettrez, S. B. Dumanis, V. Yu. Glebov, V. N. Goncharov, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, S. Skupsky, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, D. L. McCrorey, R. C. Mancini, and J. A. Koch, "Hydrodynamic Growth of Shell Modulations in the Deceleration Phase of Spherical Direct-Drive Implosions," Phys. Plasmas **10** (5), 1861–1866 (2003) (invited).

1361. C. K. Li, F. H. Séguin, J. A. Frenje, R. D. Petrasso, R. Rygg, S. Kurebayashi, B. Schwartz, R. L. Keck, J. A. Delettrez, J. M. Soures, P. W. McKenty, V. N. Goncharov, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, T. C. Sangster, W. Seka, and C. Stoeckl, "Capsule-Areal-Density Asymmetries Inferred from 14.7-MeV Deuterium–Helium Protons in Direct-Drive OMEGA Implosions," Phys. Plasmas **10** (5), 1919–1924 (2003) (invited).

1360. T. C. Sangster, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, D. R. Harding, J. P. Knauer, R. L. Keck, J. D. Kilkenny, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, S. F. B. Morse, S. P. Regan, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, C. Stoeckl, K. Thorp, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. A. Fletcher, S. Padalino, C. Freeman, N. Izumi, J. A. Koch, R. A. Lerche, M. J. Moran, T. W. Phillips, and G. J. Schmid, "Direct-Drive Cryogenic Target Implosion Performance on OMEGA," Phys. Plasmas **10** (5), 1937–1945 (2003) (invited).

1359. V. N. Goncharov, J. P. Knauer, P. W. McKenty, P. B. Radha, T. C. Sangster, S. Skupsky, R. Betti, R. L. McCrory, and D. D. Meyerhofer, "Improved Performance of Direct-Drive Inertial Confinement Fusion Target Designs with Adiabat Shaping Using an Intensity Picket," Phys. Plasmas **10** (5), 1906–1918 (2003) (invited).

1358. S. Rahman and H. Yang, "Nanopillar Arrays of Glassy Carbon by Anodic Aluminum Oxide Nanoporous Templates," Nano Lett. **3** (4), 439–442 (2003).

1357. X. Zheng, S. Wu, R. Sobolewski, R. Adam, M. Mikulics, P. Kordoš, and M. Siegel, "Electro-Optic Sampling System with a Single-Crystal 4-N,N-Dimethylamino-4′-N′-Methyl-4-Stilbazolium Tosylate Sensor," Appl. Phys. Lett. **82** (15), 2383–2385 (2003).

1356. V. A. Smalyuk, P. B. Radha, J. A. Delettrez, V. Yu. Glebov, V. N. Goncharov, D. D. Meyerhofer, S. P. Regan, S. Roberts, T. C. Sangster, J. M. Soures, C. Stoeckl, J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Time-Resolved Areal-Density Measurements with Proton Spectroscopy in Spherical Implosions," Phys. Rev. Lett. **90** (13), 135002 (2003).

1355. G. P. Agrawal and D. N. Maywar, "Semiconductor Optical Amplifiers with Bragg Gratings," in *Nonlinear Photonic Crystals*, edited by R. E. Slusher and B. J. Eggleton, Springer Series in Photonics, Vol. 10 (Springer-Verlag, Berlin, 2003), Chap. 13, pp. 285–300.

1354. G. Chen, Y. Du, S. Wang, A. E. Marino, L. L. Gregg, S. R. Arrasmith, and S. D. Jacobs, "Effect of SnO on Chemical Durability of Phosphate Glasses," Glass Technol. **43C**, 97–99 (2002).

1353. X. Zheng, Y. Xu, R. Sobolewski, R. Adam, M. Mikulics, M. Siegel, and P. Kordoš, "Femtosecond Response of a Free-Standing LT-GaAs Photoconductive Switch," Appl. Opt. **42** (9), 1726–1731 (2003).

1352. F. Y. Tsai, T. N. Blanton, D. R. Harding, and S. H. Chen, "Temperature Dependence of the Properties of Vapor-Deposited Polyimide," J. Appl. Phys. **93** (7), 3760–3764 (2003).

1351. O. V. Gotchev, P. A. Jaanimagi, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, N. L. Bassett, and J. B. Oliver, "High-Throughput, High-Resolution Kirkpatrick–Baez Microscope for Advanced Streaked Imaging of ICF Experiments on OMEGA," Rev. Sci. Instrum. **74** (3), 2178–2181 (2003).

1350. V. Yu. Glebov, C. Stoeckl, T. C. Sangster, D. D. Meyerhofer, P. B. Radha, S. Padalino, L. Baumgart, R. Colburn, and J. Fuschino, "Carbon Activation Diagnostic for Tertiary Neutron Measurements," Rev. Sci. Instrum. **74** (3), 1717–1721 (2003).

1349. R. K. Kirkwood, J. D. Moody, A. B. Langdon, B. I. Cohen, E. A. Williams, M. R. Dorr, J. A. Hittinger, R. Berger, P. E. Young, L. J. Suter, L. Divol, S. H. Glenzer, O. L. Landen, W. Seka, "Observation of Saturation of Energy Transfer between Copropagating Beams in a Flowing Plasma," Phys. Rev. Lett. **89** (21), 215003 (2002).

1348. V. A. Smalyuk, S. B. Dumanis, F. J. Marshall, J. A. Delettrez, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, B. Yaakobi, and J. A. Koch, "Radial Structure of Shell Modulations Near Peak Compression of Spherical Implosions," Phys. Plasmas **10** (3), 830–834 (2003).

1347. R. D. Petrasso, J. A. Frenje, C. K. Li, F. H. Séguin, J. R. Rygg, B. E. Schwartz, S. Kurebayashi, P. B. Radha, C. Stoeckl, J. M. Soures, J. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, and T. C. Sangster, "Measuring Implosion Dynamics through ρR Evolution in Inertial-Confinement Fusion Experiments," Phys. Rev. Lett. **90** (9), 095002 (2003).

1346. X. Teng, D. Black, N. J. Watkins, Y. Gao, and H. Yang, "Platinum-Maghemite Core–Shell Nanoparticles Using a Sequential Synthesis," Nano Lett. **3** (2), 261–264 (2003).

1345. C. Stoeckl, V. Yu. Glebov, S. Roberts, T. C. Sangster, R. A. Lerche, R. L. Griffith, and C. Sorce, "Ten-Inch Manipulator-Based Neutron Temporal Diagnostic for Cryogenic Experiments," Rev. Sci. Instrum. **74** (3), 1713–1716 (2003).

1344. J. Taniguchi, N. E. LeBarron, J. Howe, D. J. Smith, C. Stolz, C. Weinzapfel, and J. Kimmons, "Functional Damage Thresholds of Hafnia/Silica Coating Designs for the NIF Laser," Proc. SPIE **4347**, 109–117 (2001).

1343. S. G. Lukishova, R. W. Boyd, N. Lepeshkin, and K. L. Marshall, "Cumulative Birefringence Effects of Nanosecond Laser Pulses in Dye-Doped Planar Nematic Liquid Crystal Layers," J. Nonlinear Opt. Phys. Mater. **11** (4), 341–350 (2002).

1342. F. H. Séguin, J. A. Frenje, C. K. Li, D. G. Hicks, S. Kurebayashi, J. R. Rygg, B.-E. Schwartz, R. D. Petrasso, S. Roberts, J. M. Soures, D. D. Meyerhofer, T. C. Sangster, J. P. Knauer, C. Sorce, V. Yu. Glebov, C. Stoeckl, T. W. Phillips, R. J. Leeper, K. Fletcher, and S. Padalino, "Spectrometry of Charged Particles from Inertial-Confinement-Fusion Plasmas," Rev. Sci. Instrum. **74** (2), 975–995 (2002).

1341. F. Y. Tsai, D. R. Harding, S. H. Chen, T. N. Blanton, "High-Permeability Fluorinated Polyimide Microcapsules by Vapor Deposition Polymerization," Polymer **44** (4), 995–1001 (2003).

1340. Y. Geng, S. W. Culligan, A. Trajkovska, J. U. Wallace, and S. H. Chen, "Monodisperse Oligofluorenes Forming Glassy-Nematic Films for Polarized Blue Emission," Chem. Mater. **15** (2), 542–549 (2003).

1339. Q. Guo, X. Teng, S. Rahman, and H. Yang, "Patterned Langmuir–Blodgett Films of Monodisperse Nanoparticles of Iron Oxide Using Soft Lithography," J. Am. Chem. Soc. **125** (3), 630–631 (2003).

1338. T. Z. Kosc, K. L. Marshall, S. D. Jacobs, and J. C. Lambropoulos, "Electric Field Induced Rotation of Polymer Cholesteric Liquid Crystal Flakes: Mechanisms and Applications," Proc. SPIE **4799**, 96–101 (2002).

1337. B. Yaakobi, F. J. Marshall, T. R. Boehly, R. P. J. Town, and D. D. Meyerhofer, "Extended X-Ray Absorption Fine-Structure Experiments with a Laser-Imploded Target as a Radiation Source," J. Opt. Soc. Am. B **20** (1), 238–245 (2003).

1336. C. R. Shmayda, W. T. Shmayda, and N. P. Kherani, "Monitoring Tritium Activity on Surfaces: Recent Developments," Fusion Sci. Technol. **41** (3), 500–504 (2002).

1335. W. T. Shmayda, A. Bruggeman, J. Braet, and S. Vanderbiesen, "Treatment of Tritiated Solvents," Fusion Sci. Technol. **41** (3), 721–735 (2002).

1334. W. T. Shmayda and R. D. Gallagher, "Recovery of Tritium from Pharmaceutical Mixed Waste Liquids," Fusion Sci. Technol. **41** (3), 726–730 (2002).

1333. H. Brunnader, W. T. Shmayda, D. R. Harding, L. D. Lund, and R. Janezic, "Advanced Tritium Recovery System," Fusion Sci. Technol. **41** (3), 840–844 (2002).

1332. G. Sabouret, C. Williams, and R. Sobolewski, "Resistive Switching Dynamics in Current-Biased $YBa_2Cu_3O_{7-x}$ Microbridges Excited by Nanosecond Electrical Pulses," Phys. Rev. B **66**, 132501 (2002).

1331. S. Jacobs, H. Pollicove, E. Fess, and J. Schoen, "Aspheric Optics Manufacturing for Commercial and Military Systems," in *First Symposium for Explosive Materials, Weapons and Military Technology* (Military Academy General Mihailo Apostolski, Skopje, Macedonia, 2002), pp. 497–504.

1330. S. Papernov and A. W. Schmid, "Correlations Between Embedded Single Gold Nanoparticles in SiO_2 Thin Film and Nanoscale Crater Formation Induced by Pulsed-Laser Radiation," J. Appl. Phys. **92** (10), 5720–5728 (2002).

1329. J. A. Frenje, C. K. Li, F. H. Séguin, S. Kurebayashi, R. D. Petrasso, J. M. Soures, J. Delettrez, V. Yu. Glebov, D. D. Meyerhofer, P. B. Radha, S. Roberts, T. C. Sangster, S. Skupsky, and C. Stoeckl, "Measurements of Fuel and Shell Areal Densities of OMEGA Capsule Implosions Using Elastically Scattered Protons," Phys. Plasmas **9** (11), 4719–4725 (2002).

1328. S. D. Jacobs and L. L. Gregg, "Making Waves with the Optics Suitcase," Opt. Photonics News **13** (7), 12–14 (2002).

1327. C. Stoeckl, V. Yu. Glebov, J. D. Zuegel, D. D. Meyerhofer, and R. A. Lerche, "Wide-Dynamic-Range 'Neutron Bang Time' Detector on OMEGA," Rev. Sci. Instrum. **73** (11), 3796–3800 (2002).

1326. I. V. Igumenshchev, "On Angular Momentum Transport in Convection-Dominated Accretion Flows," Astrophys. J. **577**, L31–L34 (2002).

1325. M. D. Skeldon, "Optical Pulse-Shaping System Based on an Electro-Optic Modulator Driven by an Aperture-Coupled-Stripline Electrical-Waveform Generator," J. Opt. Soc. Am. B **19** (10), 2423–2426 (2002).

1324. W. Seka, H. A. Baldis, J. Fuchs, S. P. Regan, D. D. Meyerhofer, C. Stoeckl, B. Yaakobi, R. S. Craxton, and R. W. Short, "Multibeam Stimulated Brillouin Scattering from Hot, Solid-Target Plasmas," Phys. Rev. Lett. **89** (17), 175002 (2002).

1323. Y. Cao, H. Li, J. A. Szpunar, and W. T. Shmayda, "Effects of Textures on Hydrogen Diffusion in Nickel," in *Textures of Materials*, Materials Science Forum, Vols. 408–412, edited by D. N. Lee (Trans Tech Publications, Aedermannsdorf, Switzerland, 2002), Part 2, pp. 1139–1144.

1322. G. N. Gol'tsman, O. Okunev, G. Chulkova, A. Lipatov, A. Semenov, K. Smirnov, B. Voronov, A. Dzardanov, C. Williams, and R. Sobolewski, "Picosecond Superconducting Single-Photon Optical Detector," Appl. Phys. Lett. **79** (6), 705–707 (2001).

1321. C. K. Li, F. H. Séguin, J. A. Frenje, S. Kurebayashi, R. D. Petrasso, D. D. Meyerhofer, J. M. Soures, J. A. Delettrez, V. Yu. Glebov, P. B. Radha, S. P. Regan, S. Roberts, T. C. Sangster, and C. Stoeckl, "Effects of Fuel-Shell Mix upon Direct-Drive, Spherical Implosions on OMEGA," Phys. Rev. Lett. **89** (16), 165002 (2002).

1320. P. Kúš, A. Plecenik, L. Satrapinsky, Y. Xu, and R. Sobolewski, "Superconducting Properties of MgB_2 Thin Films Prepared on Flexible Plastic Substrates," Appl. Phys. Lett. **81** (12), 2199–2201 (2002).

1319. M. V. Kozlov and C. J. McKinstrie, "Sound Waves in Two-Ion Plasmas," Phys. Plasmas **9** (9), 3783–3793 (2002).

1318. T. Z. Kosc, K. L. Marshall, S. D. Jacobs, J. C. Lambropoulos, and S. M. Faris, "Electric-Field-Induced Motion of Polymer Cholesteric Liquid-Crystal Flakes in a Moderately Conductive Fluid," Appl. Opt. **41** (25), 5362–5366 (2002).

1317. L. J. Waxer, J. H. Kelly, J. Rothenberg, A. Babushkin, C. Bibeau, A. Bayramian, and S. Payne, "Precision Spectral Sculpting for Narrow-Band Amplification of Broadband Frequency-Modulated Pulses," Opt. Lett. **27** (16), 1427–1429 (2002).

1316. S. P. Regan, J. A. Delettrez, F. J. Marshall, J. M. Soures, V. A. Smalyuk, B. Yaakobi, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, T. C. Sangster, W. Seka, S. Skupsky, C. Stoeckl, R. P. J. Town, D. A. Haynes, Jr., I. E. Golovkin, C. F. Hooper, Jr., J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "Shell Mix in the Compressed Core of Spherical Implosions," Phys. Rev. Lett. **89** (8), 085003 (2002).

1315. W. Seka, R. S. Craxton, R. L. Keck, J. P. Knauer, D. D. Meyerhofer, S. P. Regan, C. Stoeckl, B. Yaakobi, R. E. Bahr, D. Montgomery, H. Baldis, and R. Kirkwood, "Laser–Plasma Interaction Diagnostics for ICF Fusion Research," in *Advanced Diagnostics for Magnetic and Inertial Fusion*, edited by P. E. Stott, A. Wootton, G. Gorini, E. Sindoni, and D. Batani (Kluwer Academic/Plenum Publishers, New York, 2002), pp. 27–30.

1314. R. L. Keck, W. R. Donaldson, V. Yu. Glebov, P. A. Jaanimagi, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. P. Regan, W. Seka, C. Stoeckl, and R. Boni, "Laser and X-Ray Irradiation Diagnostics that have Paved the Path to Significantly Improved ICF Target Performance," in *Advanced Diagnostics for Magnetic and Inertial Fusion*, edited by P. E. Stott, A. Wootton, G. Gorini, E. Sindoni, and D. Batani (Kluwer Academic/Plenum Publishers, New York, 2002), pp. 181–188.

1313. C. Stoeckl, J. A. Delettrez, R. Epstein, V. Yu. Glebov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, R. P. J. Town, B. Yaakobi, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, T. W. Phillips, and T. C. Sangster, "Core Performance and Mix in Direct-Drive Spherical Implosions on OMEGA," in *Advanced Diagnostics for Magnetic and Inertial Fusion*, edited by P. E. Stott, A. Wootton, G. Gorini, E. Sindoni, and D. Batani (Kluwer Academic/Plenum Publishers, New York, 2002), pp. 19–26.

1312. S. Papernov, A. W. Schmid, R. Krishnan, and L. Tsybeskov, "Using Colloidal Gold Nanoparticles for Studies of Laser Interaction with Defects in Thin Films," Proc. SPIE **4347**, 146–154 (2001).

1311. A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, "A New High-Bandwidth, All-Solid-State Pulse-Shaping System for the OMEGA Laser Facility," Proc. SPIE **4352**, 69–73 (2001).

1310. S. Skupsky, R. L. McCrory, R. E. Bahr, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, V. N. Goncharov, R. Q. Gram, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. P. Knauer, S. J. Loucks, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, O. V. Gotchev, P. B. Radha, S. P. Regan, W. Seka, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, M. D. Whitman, B. Yaakobi, J. D. Zuegel, R. D. Petrasso, J. Frenje, D. G. Hicks, C. K. Li, and F. Séguin, "OMEGA Experiments and Preparation for Direct-Drive Ignition on NIF," Proc. SPIE **4424**, 27–36 (2001).

1309. R. P. J. Town, J. A. Delettrez, R. Epstein, V. N. Goncharov, C. K. Li, R. L. McCrory, P. W. McKenty, P. B. Radha, S. Skupsky, V. Yu. Glebov, D. R. Harding, D. D. Meyerhofer, F. J. Marshall, R. D. Petrasso, S. P. Regan, F. H. Séguin, W. Seka, V. A. Smalyuk, C. Stoeckl, J. M. Soures, and J. D. Zuegel, "OMEGA Direct-Drive Cryogenic Target Physics," in *Inertial Fusion Sciences and Applications 2001*, edited by K. A. Tanaka, D. D. Meyerhofer, and J. Meyer-ter-Vehn (Elsevier, Paris, 2002), pp. 126–131.

1308. S. Skupsky, R. Betti, T. J. B. Collins, V. N. Goncharov, D. R. Harding, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, and R. P. J. Town, "High-Gain Direct-Drive Target Designs for the National Ignition Facility," in *Inertial Fusion Sciences and Applications 2001*, edited by K. A. Tanaka, D. D. Meyerhofer, and J. Meyer-ter-Vehn (Elsevier, Paris, 2002), pp. 240–245.

1307. S. P. Regan, J. A. Delettrez, B. Yaakobi, V. A. Smalyuk, F. J. Marshall, R. Epstein, V. Yu. Glebov, P. A. Jaanimagi, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, J. M. Soures, C. Stoeckl, R. P. J. Town, D. A. Haynes, Jr., I. Golovkin, C. F. Hooper, Jr., J. A. Frenje, C. K. Li, R. D. Petrasso, and F. H. Séguin, "High-Density, Direct-Drive-Implosions on OMEGA," in *Inertial Fusion Sciences and Applications 2001*, edited by K. A. Tanaka, D. D. Meyerhofer, and J. Meyer-ter-Vehn (Elsevier, Paris, 2002), pp. 89–95.

1306. J. A. Frenje, C. K. Li, F. H. Séguin, D. G. Hicks, S. Kurebayashi, R. D. Petrasso, S. Roberts, V. Yu. Glebov, D. D. Meyerhofer, T. C. Sangster, J. M. Soures, C. Stoeckl, C. Chiritescu, G. J. Schmid, and R. A. Lerche, "Absolute Measurements of Neutron Yields from DD and DT Implosions at the OMEGA Laser Facility Using CR-39 Track Detectors," Rev. Sci. Instrum. **73** (7), 2597–2605 (2002).

1305. R. W. Short and A. Simon, "Damping of Perturbations in Weakly Collisional Plasmas," Phys. Plasmas **9** (8), 3245–3253 (2002).

1304. F. H. Séguin, C. K. Li, J. A. Frenje, S. Kurebayashi, R. D. Petrasso, F. J. Marshall, D. D. Meyerhofer, J. M. Soures, T. C. Sangster, C. Stoeckl, J. A. Delettrez, P. B. Radha, V. A, Smalyuk, and S. Roberts, "Measurements of ρR Asymmetries at Burn Time in Inertial-Confinement-Fusion Capsules," Phys. Plasmas **9** (8), 3558–3566 (2002).

1303. T. R. Boehly, T. J. B. Collins, O. Gotchev, T. J. Kessler, J. P. Knauer, T. C. Sangster, and D. D. Meyerhofer, "Observations of Modulated Shock Waves in Solid Targets Driven by Spatially Modulated Laser Beams," J. Appl. Phys. **92** (3), 1212–1215 (2002).

1302. F. H. Séguin, C. K. Li, J. A. Frenje, D. G. Hicks, K. M. Green, S. Kurebayshi, R. D. Petrasso, J. M. Soures, D. D. Meyerhofer, V. Yu. Glebov, P. B. Radha, C. Stoeckl, S. Roberts, C. Sorce, T. C. Sangster, M. D. Cable, K. Fletcher, and S. Padalino, "Using Secondary-Proton Spectra to Study the Compression and Symmetry of Deuterium-Filled Capsules at OMEGA," Phys. Plasmas **9** (6), 2725–2737 (2002).

1301. S. V. Lebedev, J. P. Chittenden, F. N. Beg, S. N. Bland, A. Ciardi, D. Ampleford, S. Hughes, M. G. Haines, A. Frank, E. G. Blackman, and T. Gardiner, "Laboratory Astrophysics and Collimated Stellar Outflows: The Production of Radiatively Cooled Hypersonic Plasma Jets," Astrophys. J. **564**, 113–119 (2002).

1300. W. R. Donaldson, R. Boni, R. L. Keck, and P. A. Jaanimagi, "A Self-Calibrating, Multichannel Streak Camera for Inertial Confinement Fusion Applications," Rev. Sci. Instrum. **73** (7), 2606–2615 (2002).

1299. S. Papernov, A. W. Schmid, A. L. Rigatti, and J. D. Howe, "Establishing Links Between Single Gold Nanoparticles Buried Inside SiO_2 Thin Film and 351-nm Pulsed-Laser Damage Morphology," Proc. SPIE **4679**, 282–292 (2002).

1298. A. Verevkin, J. Zhang, R. Sobolewski, A. Lipatov, O. Okunev, G. Chulkova, A. Korneev, K. Smirnov, G. N. Gol'tsman, and A. Semenov, "Detection Efficiency of Large-Active-Area NbN Single-Photon Superconducting Detectors in the Ultraviolet to Near-Infrared Range," Appl. Phys. Lett. **80** (25), 4687–4689 (2002).

1297. Y. Geng, A. Trajkovska, D. Katsis, J. J. Ou, S. W. Culligan, and S. H. Chen, "Synthesis, Characterization, and Optical Properties of Monodisperse Chiral Oligofluorenes," J. Am. Chem. Soc. **124**, 8337–8347 (2002).

1296. F.-Y. Tsai, D. R. Harding, S. H. Chen, T. N. Blanton, and E. L. Alfonso, "Effects of Processing Conditions on the Quality and Properties of Vapor-Deposited Polyimide Shells," Fusion Sci. Technol. **41** (3), 178–187 (2002).

1295. A. V. Okishev, D. Battaglia, I. Begishev, and J. D. Zuegel, "All-Solid-State, Diode-Pumped Regenerative Amplifier for the OMEGA Laser System," in OSA *Trends in Optics and Photonics (TOPS) Vol. 73, Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 2002), pp. 365–366.

1294. A. V. Okishev, D. J. Battaglia, I. A. Begishev, and J. D. Zuegel, "Highly Stable, Diode-Pumped, Cavity-Dumped Nd:YLF Regenerative Amplifier for the OMEGA Laser Fusion Facility," in *OSA TOPS Vol. 68, Advanced Solid-State Lasers*, edited by M. E. Fermann and L. R. Marshall (Optical Society of America, Washington, DC, 2002), pp. 418–422.

1293. D. Katsis, Y. H. Geng, J. J. Ou, S. W. Culligan, A. Trajkovska, S. H. Chen, and L. J. Rothberg, "Spiro-Linked Ter- and Pentafluorenes for Stable and Efficient Blue Emission," Polymer Preprints **43** (1), 118–119 (2002).

1292. C. Williams, G. Sabouret, and R. Sobolewski, “Experiments and Simulations of Electrical Pulse Modulation of Y-Ba-Cu-O Thin Films,” IEICE Trans. Electron. **E85–C** (3), 733−737 (2002).

1291. R. Sobolewski, Y. Xu, X. Zheng, C. Williams, J. Zhang, A. Verevkin, G. Chulkova, A. Korneev, A. Lipatov, O. Okunev, K. Smirnov, and G. N. Gol’tsman, “Spectral Sensitivity of the NbN Single-Photon Superconducting Detector,” IEICE Trans. Electron. **E85–C** (3), 797−802 (2002).

1290. H.-M. P. Chen, S. W. Culligan, Y. H. Geng, D. Katsis, and S. H. Chen, “Photoresponsive Glassy Liquid Crystals for Tunable Reflective Coloration,” Polymer Preprints **43** (1), 145−146 (2002).

1289. V. A. Smalyuk, J. A. Delettrez, V. N. Goncharov, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, T. C. Sangster, R. P. J. Town, and B. Yaakobi, “Rayleigh−Taylor Instability in the Deceleration Phase of Spherical Implosion Experiments,” Phys. Plasmas **9** (6), 2738−2744 (2002).

1288. A. D. Semenov, G. N. Gol’tsman, and R. Sobolewski, “Hot-Electron Effect in Superconductors and Its Applications for Radiation Sensors,” Supercond. Sci. Technol. **15**, R1−R16 (2002).

1287. V. Lobatchev and R. Betti, “Ablative Stabilization of the Deceleration Phase Rayleigh−Taylor Instability,” Phys. Rev. Lett. **85** (21), 4522-4525 (2002).

1286. L. T. Hudson, A. Henins, R. D. Deslattes, J. F. Seely, G. E. Holland, R. Atkin, L. Marlin, D. D. Meyerhofer, and C. Stoeckl, “A High-Energy X-Ray Spectrometer Diagnostic for the OMEGA Laser,” Rev. Sci. Instrum. **73** (6), 2270−2275 (2002).

1285. R. Betti, K. Anderson, V. N. Goncharov, R. L. McCrory, D. D. Meyerhofer, S. Skupsky, and R. P. J. Town, “Deceleration Phase of Inertial Confinement Fusion Implosions,” Phys. Plasmas **9** (5), 2277−2286 (2002).

1284. P. B. Radha, J. Delettrez, R. Epstein, V. Yu. Glebov, R. Keck, R. L. McCrory, P. McKenty, D. D. Meyerhofer, F. Marshall, S. P. Regan, S. Roberts, T. C. Sangster, W. Seka, S. Skupsky, V. Smalyuk, C. Sorce, C. Stoeckl, J. Soures, R. P. J. Town, B. Yaakobi, J. Frenje, C. K. Li, R. Petrasso, F. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, and T. W. Phillips, “Inference of Mix in Direct-Drive Implosions on OMEGA,” Phys. Plasmas **9** (5), 2208−2213 (2002).

1283. C. Stoeckl, C. Chiritescu, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, R. L. Keck, S. J. Loucks, L. D. Lund, R. L. McCrory, P. W. McKenty, F. J. Marshall, D. D. Meyerhofer, S. F. B. Morse, S. P. Regan, P. B. Radha, S. Roberts, T. C. Sangster, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, R. P. J. Town, J. A. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, and T. W. Phillips, “First Results from Cryogenic Target Implosions on OMEGA,” Phys. Plasmas **9** (5), 2195−2201 (2002).

1282. T. J. B. Collins and S. Skupsky, "Imprint Reduction Using an Intensity Spike in OMEGA Cryogenic Targets," Phys. Plasmas **9** (1), 275–281 (2002).

1281. A. E. Marino, S. R. Arrasmith, L. L. Gregg, S. D. Jacobs, G. Chen, and Y. Duc, "Durable Phosphate Glasses with Lower Transition Temperatures," J. Non-Cryst. Solids **289**, 37–41 (2001).

1280. R. Adam, R. Sobolewski, and M. Darula, "Subpicosecond Dynamics of the Switching Process in Y-Ba-Cu-O Josephson Junctions," Proc. SPIE **4058**, 230–244 (2000).

1279. V. N. Goncharov, "Analytical Model of Nonlinear, Single-Mode, Classical Rayleigh–Taylor Instability at Arbitrary Atwood Numbers," Phys. Rev. Lett. **88** (13), 134502 (2002).

1278. M. J. Guardalben, A. Babushkin, R. S. Craxton, R. L. Keck, W. R. Donaldson, and K. A. Thorp, "Obtaining UV Energy Balance with 1-THz Spectral Bandwidth on the 60-Beam OMEGA Laser," in *OSA Trends in Optics and Photonics (TOPS) Vol. 56*, Conference on Lasers and Electro-Optics (CLEO 2001) (Optical Society of America, Washington, DC, 2001), p. 157.

1277. W. R. Donaldson, J. H. Kelly, R. L. Keck, and R. Boni, "Predicting and Measuring Optical Pulse Shapes on the OMEGA Laser System," in *OSA Trends in Optics and Photonics (TOPS) Vol. 56, Conference on Lasers and Electro-Optics (CLEO 2001)* (Optical Society of America, Washington, DC, 2001), pp. 158–159.

1276. F.-Y. Tsai, E. L. Alfonso, D. R. Harding, and S. H. Chen, "Processing Vapor-Deposited Polyimide," J. Phys. D: Appl. Phys. **34**, 3011–3018 (2001).

1275. D. Katsis, Y. H. Geng, J. J. Ou, S. W. Culligan, A. Trajkovska, S. H. Chen, and L. J. Rothberg, "Spiro-Linked Ter-, Penta-, and Heptafluorenes as Novel Amorphous Materials for Blue Light Emission," Chem. Mater. **14**, 1332–1339 (2002).

1274. S. P. Regan, J. A. Delettrez, R. Epstein, P. A. Jaanimagi, B. Yaakobi, V. A. Smalyuk, F. J. Marshall, D. D. Meyerhofer, W. Seka, D. A. Haynes, Jr., I. E. Golovkin, and C. F. Hooper, Jr., "Characterization of Direct-Drive-Implosion Core Conditions on OMEGA with Time-Resolved Ar *K*-Shell Spectroscopy," Phys. Plasmas **9** (4), 1357–1365 (2002).

1273. D. P. Butler, Z. Celik-Butler, and R. Sobolewski, "Yttrium Barium Copper Oxide as an Infrared Radiation Sensing Material," in *Handbook of Advanced Electronic and Photonic Materials and Devices*, edited by H. S. Nalwa, Volume 3: High T_c Superconductors and Organic Conductors (Academic Press, New York, 2001), Chap. 4, pp. 169–195.

1272. S. R. Arrasmith, S. D. Jacobs, I. A. Kozhinova, A. B. Shorey, L. L. Gregg, H. J. Romanofsky, D. Golini, W. I. Kordonski, S. Hogan, and P. Dumas, "Development and Characterization of Magnetorheological Fluids for Optical Finishing," in *1999 Fine Powder Processing International Conference Proceedings*, edited by V. M. Puri, J. H. Adair, C. L. Knobloch, and C. C. Huang (The Pennsylvania State University, University Park, PA, 2000), pp. 275–282.

1271. J. M. Larkin, W. R. Donaldson, R. S. Knox, and T. H. Foster, "Reverse Intersystem Crossing in Rose Bengal. II. Fluence Dependence of Fluorescence Following 532 nm Laser Excitation," Photochem. Photobio. **75** (3), 221–228 (2002).

1270. J. A. Marozas, "Self- and Cross-Phase Modulation of High-Intensity Laser Beams Emerging from a Diamond-Turned KDP Wedge," J. Opt. Soc. Am. B **19** (1), 75–82 (2002).

1269. A. V. Okishev, R. Boni, M. Millecchia, P. A. Jaanimagi, W. R. Donaldson, R. L. Keck, W. Seka, K. V. Dukelsky, M. A. Eronyan, V. S. Shevandin, G. A. Ermolaeva, G. E. Nikolaev, and V. B. Shilov, "Unique High-Bandwidth UV Fiber Delivery System for the OMEGA Diagnostics Applications," IEEE J. Sel. Top. Quantum Electron. **7** (3), 471–474 (2001).

1268. R. Betti, M. Umansky, V. Lobatchev, V. N. Goncharov, and R. L. McCrory, "Hot-Spot Dynamics and Deceleration-Phase Rayleigh–Taylor Instability of Imploding Inertial Confinement Fusion Capsules," Phys. Plasmas **8** (12), 5257–5267 (2001).

1267. M. J. Guardalben, L. Ning, N. Jain, D. J. Battaglia, and K. L. Marshall, "Experimental Comparison of a Liquid-Crystal Point-Diffraction Interferometer (LCPDI) and a Commercial Phase-Shifting Interferometer and Methods to Improve LCPDI Accuracy," Appl. Opt. **41** (7), 1353–1365 (2002).

1266. W. Göb, W. Liebich, W. Lang, I. Puica, R. Sobolewski, R. Rössler, J. D. Pedarnig, and D. Bäuerle, "Double Sign Reversal of the Vortex Hall Effect in $YBa_2Cu_3O_{7-\delta}$ Thin Films in the Strong Pinning Limit of Low Magnetic Fields," Phys. Rev. B **62** (14), 9780–9783 (2000).

1265. R. Sobolewski, D. P. Butler, and Z. Celik-Butler, "Cooled and Uncooled Infrared Detectors Based on Yttrium Barium Copper Oxide," Proc. SPIE **4318**, 204–214 (2001).

1264. B. Yaakobi, C. Stoeckl, T. R. Boehly, R. S. Craxton, D. D. Meyerhofer, and W. D. Seka, "Measurement of Preheat Due to Fast Electrons in Laser Implosions," Proc. SPIE **4424**, 392–401 (2001).

1263. P. A. Jaanimagi, R. Boni, and R. L. Keck, "Neutron-Induced Background in Charge-Coupled Device Detectors," Rev. Sci. Instrum. **72** (1), 801–804 (2001).

1262. R. Sobolewski, "Ultrafast Optoelectronic Interface for Digital Superconducting Electronics," Supercond. Sci. Technol. **14**, 994–1000 (2001).

1261. J. A. Marozas, S. P. Regan, J. H. Kelly, D. D. Meyerhofer, W. Seka, and S. Skupsky, "Laser Beam Smoothing Caused by the Small-Spatial-Scale *B* Integral," J. Opt. Soc. Am. B **19** (1), 7–17 (2002).

1260. D. D. Meyerhofer, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher,

S. Padalino, C. Freeman, N. Izumi, R. A. Lerche, T. W. Phillips, and T. C. Sangster, "Inferences of Mix in Direct-Drive Spherical Implosions with High Uniformity," Plasma Phys. Control. Fusion **43**, A277–A286 (2001).

1259. S. D. Jacobs, S. R. Arrasmith, I. A. Kozhinova, S. R. Gorodkin, L. L. Gregg, H. J. Romanofsky, T. D. Bishop II, A. B. Shorey, and W. I. Kordonski, "Effects of Changes in Fluid Composition on Magnetorheological Finishing (MRF) of Glasses and Crystals," in *Initiatives of Precision Engineering at the Beginning of a Millennium*, edited by I. Inasaki (Kluwer Academic Publishers, Boston, 2001), pp. 501–505.

1258. I. R. Kozhinova, S. R. Arrasmith, J. C. Lambropoulos, S. D. Jacobs, and H. J. Romanofsky, "Exploring Anisotropy in Removal Rate for Single Crystal Sapphire Using MRF," Proc. SPIE **4451**, 277–285 (2001).

1257. J. E. DeGroote, S. D. Jacobs, L. L. Gregg, A. E. Marino, and J. C. Hayes, "Quantitative Characterization of Optical Polishing Pitch," Proc. SPIE **4451**, 209–221 (2001).

1256. S. R. Arrasmith, S. D. Jacobs, J. C. Lambropoulos, A. Maltsev, D. Golini, and W. I. Kordonski, "The Use of Magnetorheological Finishing (MRF) to Relieve Residual Stress and Subsurface Damage on Lapped Semiconductor Silicon Wafers," Proc. SPIE **4451**, 286–294 (2001).

1255. R. Sobolewski and J.-R. Park, "Magneto-Optical Modulator for Superconducting Digital Output Interface," IEEE Trans. Appl. Supercond. **11** (1), 727–730 (2001).

1254. G. Gol'tsman, O. Okunev, G. Chulkova, A. Lipatov, A. Dzardanov, K. Smirnov, A. Semenov, B. Voronov, C. Williams, and R. Sobolewski, "Fabrication and Properties of an Ultrafast NbN Hot-Electron Single-Photon Detector," IEEE Trans. Appl. Supercond. **11** (1), 574–577 (2001).

1253. C. Williams, Y. Xu, R. Adam, M. Darula, O. Harnack, J. Scherbel, M. Siegel, F. A. Hegmann, and R. Sobolewski, "Ultrafast YBCO Photodetector Based on the Kinetic-Inductive Process," IEEE Trans. Appl. Supercond. **11** (1), 578–581 (2001).

1252. Y. Geng, D. Katsis, S. W. Culligan, J. J. Ou, S. H. Chen, and L. J. Rothberg, " Fully Spiro-Configured Terfluorenes as Noel Amorphous Materials Emitting Blue Light," Chem. Mater. **14**, 463–470 (2002).

1251. A. V. Okishev, A. Babushkin, R. E. Bahr, T. R. Boehly, R. Boni, R. S. Craxton, W. R. Donaldson, M. J. Guardalben, P. A. Jaanimagi, S. D. Jacobs, R. L. Keck, J. H. Kelly, T. J. Kessler, S. A. Letzring, S. J. Loucks, F. J. Marshall, R. L. McCrory, S. F. B. Morse, R. G. Roides, T. A. Safford, W. Seka, M. J. Shoup III, M. D. Skeldon, S. Skupsky, J. M. Soures, K. A. Thorp, and J. D. Zuegel, "High-Energy Solid-State Lasers for ICF Applications," in *Proceedings of the International Congress on Optics–XXI Century* (St. Petersburg Institute of Fine Mechanics and Optics, St. Petersburg, Russia, 2000), pp. 10–18.

1250. T. R. Boehly, J. A. Delettrez, J. P. Knauer, D. D. Meyerhofer, B. Yaakobi, R. P. J. Town, and D. Hoarty, "Effect of Shock Heating on the Stability of Laser-Driven Targets," Phys. Rev. Lett. **87** (14), 145003 (2001).

1249. V. A. Smalyuk, V. N. Goncharov, J. A. Delettrez, F. J. Marshall, D. D. Meyerhofer, S. P. Regan, and B. Yaakobi, "Evolution of Shell Nonuniformities Near Peak Compression of Spherical Implosion," Phys. Rev. Lett. **87** (15), 155002 (2001).

1248. F. Y. Fan, S. W. Culligan, J. C. Mastrangelo, D. Katsis, S. H. Chen, and T. N. Blanton, Novel Glass-Forming Liquid Crystals. 6. High-Temperature Glassy Nematics," Chem. Mater. **13**, 4584–4594 (2001).

1247. C. K. Li, F. H. Séguin, D. G. Hicks, J. A. Frenje, K. M. Green, S. Kurebayashi, R. D. Petrasso, D. D. Meyerhofer, J. M. Soures, V. Yu. Glebov, R. L. Keck, P. B. Radha, S. Roberts, W. Seka, S. Skupsky, C. Stoeckl, and T. C. Sangster, "Study of Direct-Drive, Deuterium–Tritium Gas-Filled Plastic Capsule Implosions Using Nuclear Diagnostics at OMEGA," Phys. Plasmas **8** (11), 4902–4913 (2001).

1246. Duplicate of 1269.

1245. R. L. McCrory, R. E. Bahr, R. Betti, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, J. Frenje, V. Yu. Glebov, V. N. Goncharov, O. V. Gotchev, R. Q. Gram, D. R. Harding, D. G. Hicks, P. A. Jaanimagi, R. L. Keck, J. H. Kelly, J. P. Knauer, C. K. Li, S. J. Loucks, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, R. D. Petrasso, P. B. Radha, S. P. Regan, S. Roberts, F. Séguin, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, J. M. Soures, C. Stoeckl, R. P. J. Town, M. D. Wittman, B. Yaakobi, and J. D. Zuegel, "OMEGA ICF Experiments and Preparation for Direct Drive Ignition on NIF," Nucl. Fusion **41** (10), 1413–1422 (2001).

1244. T. R. Boehly, Y. Fisher, D. D. Meyerhofer, W. Seka, J. M. Soures, and D. K. Bradley, "The Effect of Optical Prepulse on Direct-Drive Inertial Confinement Fusion Target Performance," Phys. Plasmas **8** (1), 231–237 (2001).

1243. V. A. Smalyuk, B. Yaakobi, J. A. Delettrez, F. J. Marshall, and D. D. Meyerhofer, "Compressed-Shell Integrity Measurements in Spherical Implosion Experiments," Phys. Plasmas **8** (6), 2872–2882 (2001).

1242. V. A. Smalyuk, T. R. Boehly, L. S. Iwan, T. J. Kessler, J. P. Knauer, F. J. Marshall, D. D. Meyerhofer, C. Stoeckl, B. Yaakobi, and D. K. Bradley, "Fourier-Space Image Processing for Spherical Experiments on OMEGA," Rev. Sci. Instrum. **72** (1), 635–642 (2001) (invited).

1241. P. W. McKenty, V. N. Goncharov, R. P. J. Town, S. Skupsky, R. Betti, and R. L. McCrory, "Analysis of a Direct-Drive Ignition Capsule Designed for the National Ignition Facility," Phys. Plasmas **8** (5), 2315–2322 (2001) (invited).

1240. T. R. Boehly, V. N. Goncharov, O. Gotchev, J. P. Knauer, D. D. Meyerhofer, D. Oron, S. P. Regan, Y. Srebro, W. Seka, D. Shvarts, S. Skupsky, and V. A. Smalyuk, "Optical and Plasma Smoothing of Laser Imprinting in Targets Driven by Lasers with SSD Bandwidths up to 1 THz," Phys. Plasmas **8** (5), 2331–2337 (2001) (invited).

1239. D. D. Meyerhofer, J. A. Delettrez, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. L. Keck, R. L. McCrory, P. W. McKenty, F. J. Marshall, P. B. Radha, S. P. Regan, S. Roberts, W. Seka, S. Skupsky, V. A. Smalyuk, C. Sorce, C. Stoeckl, J. M. Soures, R. P. J. Town, B. Yaakobi, J. D. Zuegel, J. Frenje, C. K. Li, R. D. Petrasso, F. H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, T. W. Phillips, and T. C. Sangster, "Core Performance and Mix in Direct-Drive Spherical Implosions with High Uniformity," Phys. Plasmas **8** (5), 2251–2256 (2001) (invited).

1238. V. N. Goncharov, P. McKenty, S. Skupsky, R. Betti, R. L. McCrory, and C. Cherfils-Clérouin, "Modeling Hydrodynamic Instabilities in Inertial Confinement Fusion Targets," Phys. Plasmas. **7** (12), 5118–5139 (2000).

1237. D. Katsis, D. U. Kim, H. P. Chen, L. J. Rothberg, S. H. Chen, and T. Tsutsui, "Circularly Polarized Photoluminescence from Gradient-Pitch Chiral-Nematic Films," Chem. Mater. **13**, 643–647 (2001).

1236. T. R. Boehly, A. Babushkin, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, T. J. Kessler, J. P. Knauer, R. L. McCrory, P. W. McKenty, D. D. Meyerhofer, S. Regan, W. Seka, S. Skupsky, V. A. Smalyuk, R. P. J. Town, and B. Yaakobi, "Laser Uniformity and Hydrodynamic Stability Experiments at the OMEGA Laser Facility," Laser Part. Beams **18**, 11–19 (2000).

1235. J. A. Frenje, K. M. Green, D. G. Hicks, C. K. Li, F. H. Séguin, R. D. Petrasso, T. C. Sangster, T. W. Phillips, V. Yu. Glebov, D. D. Meyerhofer, S. Roberts, J. M. Soures, C. Stoeckl, K. Fletcher, S. Padalino, and R. J. Leeper, "A Neutron Spectrometer for Precise Measurements of DT Neutrons from 10 to 18 MeV at OMEGA and the National Ignition Facility," Rev. Sci. Instrum. **72** (1), 854–858 (2001).

1234. V. Yu. Glebov, D. D. Meyerhofer, C. Stoeckl, and J. D. Zuegel, "Secondary-Neutron-Yield Measurements by Current-Mode Detectors," Rev. Sci. Instrum **72** (1), 824–827 (2001).

1233. F. J. Marshall, T. Ohki, D. McInnis, Z. Ninkov, and J. Carbone, "Imaging of Laser-Plasma X-Ray Emission with Charge-Injection Devices," Rev. Sci. Instrum. **72** (1), 713–716 (2001).

1232. C. Stoeckl, V. Yu. Glebov, D. D. Meyerhofer, W. Seka, B. Yaakobi, R. P. J. Town, and J. D. Zuegel, "Hard X-Ray Detectors for OMEGA and NIF," Rev. Sci. Instrum. **72** (1), 1197–1200 (2001).

1231. A. B. Shorey, S. D. Jacobs, W. I. Kordonski, and R. F. Gans, "Experiments and Observations Regarding the Mechanisms of Glass Removal in Magnetorheological Finishing," Appl. Opt. **40** (1), 20–33 (2001).

1230. R. Sobolewski, "Time-Resolved Nonequilibrium Phenomena in High-Temperature Superconductors," in *Superconductivity, Magneto-Resistive Materials and Strongly Correlated Quantum Systems*, Rencontres Du Vietnam, edited by N. Van Hieu, T. Than Van, and G. Xiao, (Vietnam National University Press, Hanoi, 2000), pp. 55–66 (invited).

1229. D. Katsis, H. P. Chen, S. H. Chen, L. J. Rothberg, and T. Tsutsui, "Polarized Photoluminescence from Solid Films of Nematic and Chiral-Nematic Poly(*p*-phenylene)s," Appl. Phys. Lett. **77** (19), 2982–2984 (2000).

1228. A. B. Shorey, K. M. Kwong, K. M. Johnson, and S. D. Jacobs, "Nanoindentation Hardness of Particles Used in Magnetorheological Finishing (MRF)," Appl. Opt. **39** (28), 5194–5204 (2000).

1227. S. P. Regan, J. A. Marozas, J. H. Kelly, T. R. Boehly, W. R. Donaldson, P. A. Jaanimagi, R. L. Keck, T. J. Kessler, D. D. Meyerhofer, W. Seka, S. Skupsky, and V. A. Smalyuk, "Experimental Investigation of Smoothing by Spectral Dispersion," J. Opt. Soc. Am. B **17** (9), 1483–1489 (2000).

1226. V. A. Smalyuk, B. Yaakobi, F. J. Marshall, and D. D. Meyerhofer, "X-Ray Spectroscopic Measurements of Areal Density and Modulations of Compressed Shells in Implosion Experiments on OMEGA," *Atomic Processes in Plasmas*: *Twelfth Topical Conference*, edited by R. C. Mancini and R. A. Phaneuf (American Institute of Physics, New York, 2000), pp. 15–24.

1225. E. L. Alfonso, I. Anteby, and D. R. Harding, "Temperature Profiles and $\ell = 1$ Nonuniformity Within Cryogenic ICF Targets," Fusion Technol. **38**, 149–155 (2000).

1224. F.-Y. Tsai, E. L. Alfonso, S.-H. Chen, and D. R. Harding, "Mechanical Properties and Gas Permeability of Polyimide Shells Fabricated by the Vapor Deposition Method," Fusion Technol. **38**, 83–89 (2000).

1223. K. Green and R. Sobolewski, "Extending Scattering-Parameter Approach to Characterization of Linear Time-Varying Microwave Devices," IEEE Trans. Microw. Theory Tech. **48** (10), 1725–1731 (2000).

1222. M. D. Skeldon, "A High-Bandwidth Electrical Waveform Generator Based on an Aperture-Coupled Stripline," Rev. Sci. Instrum. **71** (9), 3559–3566 (2000).

1221. H. P. Chen, D. Katsis, J. C. Mastrangelo, S. H. Chen, S. D. Jacobs, and P. J. Hood, "Glassy Liquid-Crystal Films with Opposite Chirality as High-Performance Optical Notch Filters and Reflectors," Adv. Mater. **12** (17), 1283–1286 (2000).

1220. F. Y. Fan, J. C. Mastrangelo, D. Katsis, S. H. Chen, and T. N. Blanton, "Novel Glass-Forming Liquid Crystals V. Nematic and Chiral-Nematic Systems with an Elevated Glass Transition Temperature," Liq. Cryst. **27** (9), 1239–1248 (2000).

1219. B. Yaakobi, C. Stoeckl, T. Boehly, D. D. Meyerhofer, and W. Seka, "Measurement of Preheat Due to Fast Electrons in Laser Implosions," Phys. Plasmas **7** (9), 3714–3720 (2000).

1218. B. Yaakobi, V. A. Smalyuk, J. A. Delettrez, F. J. Marshall, D. D. Meyerhofer, and W. Seka, "Measurement of Areal Density Modulation of Laser-Imploded Shells Through *K*-Edge Imaging," Phys. Plasmas **7** (9), 3727–3735 (2000).

1217. M. J. Guardalben and N. Jain, "Phase-Shift Error as a Result of Molecular Alignment Distortions in a Liquid-Crystal Point-Diffraction Interferometer," Opt. Lett. **25** (16), 1171–1173 (2000).

1216. H. P. Chen, D. Katsis, J. C. Mastrangelo, K. L. Marshall, S. H. Chen, and T. H. Mourey, "Thermotropic Chiral–Nematic Poly(*p*-phenylene)s as a Paradigm of Helically Stacked π-Conjugated Systems," Chem. Mater. **12**, 2275–2281 (2000).

1215. P. W. McKenty, M. D. Wittman, and V. N. Goncharov, "Characterization of Thick Cryogenic Fuel Layers Using Convergent-Beam Interferometry: A Numerical Investigation," J. Appl. Phys. **88** (5), 2928–2935 (2000).

1214. R. Adam, M. Currie, C. Williams, R. Sobolewski, O. Harnack, and M. Darula, "Direct Observation of Subpicosecond Single-Flux-Quantum Generation in Pulse-Driven Y–Ba–Cu–O Josephson Junctions," Appl. Phys. Lett. **76** (4), 469–471 (2000).

1213. A. B. Shorey and S. D. Jacobs, "Nanohardness of Abrasive Particles Used in Magnetorheological Finishing (MRF)," in *Optical Fabrication and Testing*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 145–147.

1212. I. Kozhinova, S. Jacobs, S. Arrasmith, and L. Gregg, "Corrosion in Aqueous Cerium Oxide Magnetorheological Fluids," in *Optical Fabrication and Testing*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 151–153.

1211. S. D. Jacobs and A. B. Shorey, "Magnetorheological Finishing: New Fluids for New Materials," in *Optical Fabrication and Testing*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 142–144.

1210. S. R. Gorodkin, W. I. Kordonski, E. V. Medvedeva, Z. A. Novikova, A. B. Shorey, and S. D. Jacobs, "A Method and Device for Measurement of a Sedimentation Constant of Magnetorheological Fluids," Rev. Sci. Instrum. **71** (6), 2476–2480 (2000).

1209. S. D. Jacobs, "Take-Home Demo Excites Young People About Careers in Technology," Opt. Photonics News, 16–17 (July 2000).

1208. J. L. Chaloupka and D. D. Meyerhofer, "Characterization of a Tunable, Single-Beam Ponderomotive-Optical Trap," J. Opt. Soc. Am. B **17** (5), 713–722 (2000).

1207. K. S. Il'in, M. Lindgren, M. Currie, A. D. Semenov, G. N. Gol'tsman, R. Sobolewski, S. I. Cherednichenko, and E. M. Gershenzon, "Picosecond Hot-Electron Energy Relaxation in NbN Superconducting Photodetectors," Appl. Phys. Lett. **76** (19), 2752–2754 (2000).

1206. J. D. Zuegel, D. Jacobs-Perkins, J. A. Marozas, R. G. Roides, W. Bittle, E. M. R. Michaels, S. Regan, R. S. Craxton, J. H. Kelly, T. J. Kessler, W. Seka, and S. Skupsky, "Broadband Beam Smoothing on OMEGA with Two-Dimensional Smoothing by Spectral Dispersion," in *Inertial Fusion Sciences and Applications 99*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 664–668.

1205. V. N. Goncharov, S. Skupsky, P. W. McKenty, J. A. Delettrez, R. P. J. Town, and C. Cherfils-Clérouin, "Stability Analysis of Directly Driven NIF Capsules," in *Inertial Fusion Sciences and Applications 99*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 214–219.

1204. B. Yaakobi, V. A. Smalyuk, J. A. Delettrez, R. P. J. Town, F. J. Marshall, V. Yu. Glebov, R. D. Petrasso, J. M. Soures, D. D. Meyerhofer, and W. Seka, "Spherical Implosion Experiments on OMEGA: Measurements of the Cold, Compressed Shell," in *Inertial Fusion Sciences and Applications 99*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 115–121.

1203. T. R. Boehly, D. D. Meyerhofer, Y. Fisher, W. Seka, and D. K. Bradley, "Measurements of the Optical Contrast on OMEGA: A 60-Beam, 30-kJ UV Fusion Laser," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), p. 539.

1202. A. V. Okishev, R. Boni, M. Millecchia, B. Kubera, P. A. Jaanimagi, W. R. Donaldson, R. L. Keck, W. Seka, K. V. Dukelsky, M. A. Eronyan, V. S. Shevandin, and G. A. Ermolaeva, "A Unique High-Bandwidth, Multimode UV Optical Fiber: Manufacturing, Testing, and Laser-Fusion Applications," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 292–293.

1201. A. Babushkin, M. J. Guardalben R. S. Craxton, P. Adamson, H. Ammenheuser, R. L. Keck, and W. Seka, "Characterization of Frequency-Conversion Crystals for the Implementation of a 1-THz Bandwidth on the OMEGA Laser," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 2000), pp. 290–291.

1200. A. V. Okishev, M. D. Skeldon, R. L. Keck, and W. Seka, "All-Solid-State Optical Pulse Shaper for the OMEGA Laser Fusion Facility," in *Advanced Solid State Lasers*, edited by H. Injeyan, U. Keller, and C. Marshall, OSA Trends in Optics and Photonics Series, Vol. 34 (Optical Society of America, Washington, DC, 2000), pp. 112–115.

1199. T. J. B. Collins, H. L. Helfer, and H. M. Van Horn, "Oscillations of Accretion Disks and Boundary Layers in Cataclysmic Variables. II. A Local, Linear Stability Analysis of Accretion Disk Boundary Layers," Astrophys. J. **534**, 944–966 (2000).

1198. T. J. B. Collins, H. L. Helfer, and H. M. Van Horn, "Oscillations of Accretion Disks and Boundary Layers in Cataclysmic Variables. I. Unperturbed, Steady-Flow Models," Astrophys. J. **534**, 934–943 (2000).

1197. A. V. Okishev, "The Oldest Higher Education Optical Institution in Russia Turns 100," Opt. Photonics News, 17–18 (March 2000).

1196. S. Papernov, A. W. Schmid, and D. Zaksas, "Characterization of Freestanding Polymer Films for Application in 351-nm, High-Peak-Power Laser Systems," Opt. Eng. **37** (2), 677–682 (1998).

1195. F. Dahmani, A. W. Schmid, J. C. Lambropoulos, S. J. Burns, and S. Papernov, "Lifetime Prediction of Laser-Precracked Fused Silica Subjected to Subsequent Cyclic Laser Pulses," J. Mater. Res. **15** (5), 1182–1189 (2000).

1194. J. D. Schnittman and R. S. Craxton, "Three-Dimensional Modeling of Capsule Implosions in OMEGA Tetrahedral Hohlraums," Phys. Plasmas **7** (7), 2964–2977 (2000).

1193. F. J. Marshall, J. A. Delettrez, R. Epstein, V. Yu. Glebov, D. R. Harding, P. W. McKenty, D. D. Meyerhofer, P. B. Radha, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, B. Yaakobi, C. K. Li, F. H. Séguin, D. G. Hicks, and R. D. Petrasso, "Direct-Drive High-Convergence-Ratio Implosion Studies on the OMEGA Laser System," Phys. Plasmas **7** (5), 2108–2113 (2000).

1192. R. Betti and J. P. Freidberg, "Radial Discontinuities in Tokamak Magnetohydrodynamic Equilibria with Poloidal Flow," Phys. Plasmas **7** (6), 2439–2448 (2000).

1191. G. R. Bennett, J. M. Wallace, T. J. Murphy, R. E. Chrien, N. D. Delamater, P. L. Gobby, A. A. Hauer, K. A. Klare, J. A. Oertel, R. G. Watt, D. C. Wilson, W. S. Varnum, R. S. Craxton, V. Yu. Glebov, J. D. Schnittman, C. Stoeckl, S. M. Pollaine, and R. E. Turner, "Moderate-Convergence Inertial Confinement Fusion Implosions in Tetrahedral Hohlraums at OMEGA," Phys. Plasmas **7** (6), 2594–2603 (2000).

1190. W. S. Varnum, N. D. Delamater, S. C. Evans, P. L. Gobby, J. E. Moore, J. M. Wallace, R. G. Watt, J. D. Colvin, R. Turner, V. Glebov, J. Soures, and C. Stoeckl, "Progress toward Ignition with Noncryogenic Double-Shell Capsules," Phys. Rev. Lett. **84** (22), 5153–5155 (2000).

1189. R. L. McCrory, J. M. Soures, A. Babushkin, R. E. Bahr, R. Betti, T. R. Boehly, R. Boni, D. K. Bradley, T. J. B. Collins, R. S. Craxton, J. D. Delettrez, W. R. Donaldson, R. Epstein, V. Yu. Glebov, V. N. Goncharov, R. Q. Gram, D. R. Harding, D. G. Hicks, B. Hughes, P. A. Jaanimagi, T. J. Kessler, J. P. Knauer, C. K. Li, S. J. Loucks, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, A. V. Okishev, S. Padalino, R. D. Petrasso, P. B. Radha, S. P. Regan, F. H. Séguin, W. Seka, R. W. Short, A. Simon, M. D. Skeldon, S. Skupsky, C. Stoeckl, R. P. J. Town, M. D. Wittman, B. Yaakobi, and J. D. Zuegel, "Recent Advances in Direct-Drive ICF Target Physics at the Laboratory for Laser Energetics," in *Fusion Energy 1998* (IAEA, Vienna, 1999), Vol. 1, pp. 167–176.

1188. R. L. McCrory, R. E. Bahr, T. R. Boehly, T. J. B. Collins, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, V. N. Goncharov, R. Q. Gram, D. R. Harding, P. A. Jaanimagi, R. L. Keck, J. P. Knauer, S. J. Loucks, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, O. V. Gotchev, P. B. Radha, S. P. Regan, W. Seka, S. Skupsky, V. A. Smalyuk, J. M. Soures, C. Stoeckl, R. P. J. Town, M. D. Whitman, B. Yaakobi, J. D. Zuegel, R. D. Petrasso, D. G. Hicks, and C. K. Li, "OMEGA Experiments and Preparation for Moderate-Gain Direct-Drive Experiments on NIF," in *Inertial Fusion Sciences and Applications 99*, edited by C. Labaune, W. J. Hogan, and K. A. Tanaka (Elsevier, Paris, 2000), pp. 43–53.

1187. C. K. Li, D. G. Hicks, F. H. Séguin, J. A. Frenje, R. D. Petrasso, J. M. Soures, P. B. Radha, V. Yu. Glebov, C. Stoeckl, D. R. Harding, J. P. Knauer, R. Kremens, F. J. Marshall, D. D. Meyerhofer, S. Skupsky, S. Roberts, C. Sorce, T. C. Sangster, T. W.

Phillips, M. D. Cable, and R. J. Leeper, "D-^{3}He Proton Spectra for Diagnosing Shell ρR and Fuel T_i of Imploded Capsules at OMEGA," Phys. Plasmas **7** (6), 2578–2584 (2000).

1186. P. B. Radha, S. Skupsky, R. D. Petrasso, and J. M. Soures, "A Novel Charged-Particle Diagnostic for Compression in Inertial Confinement Fusion Targets," Phys. Plasmas **7** (5), 1531–1538 (2000).

1185. V. N. Goncharov, S. Skupsky, T. R. Boehly, J. P. Knauer, P. McKenty, V. A. Smalyuk, R. P. J. Town, O. V. Gotchev, R. Betti, and D. D. Meyerhofer, "A Model of Laser Imprinting," Phys. Plasmas **7** (5), 2062–2068 (2000).

1184. F. J. Marshall, J. A. Delettrez, V. Yu. Glebov, R. P. J. Town, B. Yaakobi, R. L. Kremens, and M. Cable, "Direct-Drive, Hollow-Shell Implosion Studies on the 60-Beam, UV OMEGA Laser System," Phys. Plasmas **7** (3), 1006–1013 (2000).

1183. S. H. Chen, R. J. Jin, D. Katsis, J. C. Mastrangelo, S. Papernov, and A. Schmid, "Photoracemization Broadening of Selective Reflection and Polarization Band of Glassy Chiral-Nematic Films," Liq. Cryst. **27** (2), 201–209 (2000).

1182. R. E. Turner, P. Amendt, O. L. Landen, S. G. Glendinning, P. Bell, C. Decker, B. A. Hammel, D. Kalantar, D. Lee, R. Wallace, D. Bradley, M. Cable, R. S. Craxton, R. Kremens, W. Seka, J. Schnittman, K. Thorp, T. J. Murphy, N. Delamater, C. W. Barnes, A. Hauer, G. Magelssen, and J. Wallace, "Demonstration of Time-Dependent Symmetry Control in Hohlraums by Drive-Beam Staggering," Phys. Plasmas **7** (1), 333–337 (2000).

1181. 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, "Reduction of Laser Imprinting Using Polarization Smoothing on a Solid-State Fusion Laser," J. Appl. Phys. **85** (7), 3444–3447 (1999).

1180. J. L. Chaloupka and D. D. Meyerhofer, "Observation of Electron Trapping in an Intense Laser Beam," Phys. Rev. Lett. **83** (22), 4538–4541 (1999).

1179. R. S. Knox, "Physical Aspects of the Greenhouse Effect and Global Warming," Am. J. Phys. **67** (12), 1227–1238 (1999).

1178. 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 on the OMEGA Laser System," Phys. Plasmas **7** (1), 338–345 (2000).

1177. A. B. Shorey, L. L. Gregg, H. J. Romanofsky, S. R. Arrasmith, I. Kozhinova, J. Jubregsen, and S. D. Jacobs, "Study of Material Removal During Magnetorheological Finishing (MRF)," Proc. SPIE **3782**, 101–111 (1999).

1176. S. R. Arrasmith, I. A. Kozhinova, L. L. Gregg, H. J. Romanofsky, A. B. Shorey, S. D. Jacobs, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, "Details of the Polishing Spot in Magnetorheological Finishing (MRF)," Proc. SPIE **3782**, 92–100 (1999).

1175. S. D. Jacobs, S. R. Arrasmith, I. A. Kozhinova, L. L. Gregg, A. B. Shorey, H. J. Romanofsky, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, "MRF: Computer-Controlled Optics Manufacturing," Am. Ceram. Soc. Bull. **78** (12), 42–48 (1999).

1174. A. B. Shorey, W. I. Kordonski, S. R. Gorodkin, S. D. Jacobs, R. F. Gans, K. M. Kwong, and C. H. Farny, "Design and Testing of a New Magnetorheometer," Rev. Sci. Instrum. **70** (11), 4200–4206 (1999).

1173. F. Dahmani, J. C. Lambropoulos, A. W. Schmid, S. Papernov, and S. J. Burns, "Crack Arrest and Stress Dependence of Laser-Induced Surface Damage in Fused-Silica and Borosilicate Glass," Appl. Opt. **38** (33), 6892–6903 (1999).

1172. C. J. McKinstrie and E. A. Startsev, "Forward and Backward Stimulated Brillouin Scattering of Crossed Laser Beams," Phys. Rev. E **60** (5), 5978–5986 (1999).

1171. M. D. Skeldon, A. V. Okishev, R. L. Keck, and W. Seka, "An Optical Pulse-Shaping System Based on Aperture-Coupled Striplines for OMEGA Pulse-Shaping Applications," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 1999), p. 408.

1170. A. V. Okishev, D. Jacobs-Perkins, S. F. B. Morse, D. Scott, and W. Seka, "Prepulse Contrast Monitor for the OMEGA Driver Line," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 1999), pp. 406–407.

1169. A. Babushkin, W. A. Bittle, M. D. Skeldon, and W. Seka, "Diode-Pumped Regenerative Amplifier for the OMEGA Laser System," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 1999), pp. 407–408.

1168. A. V. Okishev, "High-Repetition-Rate, Diode-Pumped, Multipass Preamplifier for the OMEGA Master Oscillator," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, Washington, DC, 1999), p. 407.

1167. S.-H. Chen, D. Katsis, P. H. Chen, J. C. Mastrangelo, and T. Tsutsui, "Circularly Polarized Light Produced with Glassy Liquid-Crystal Films," Polymer Preprints **40** (2), 1171–1172 (1999).

1166. R. E. Giacone, C. J. McKinstrie, and T. Kolber, "Angular Dependence of Stimulated Brillouin Scattering in a Homogeneous Two-Dimensional Plasma," Phys. Plasmas **6** (9), 3587–3596 (1999).

1165. D. Katsis, P. H. M. Chen, J. C. Mastrangelo, S.-H. Chen, and T. N. Blanton, "Vitrified Chiral-Nematic Liquid Crystalline Films for Selective Reflection and Circular Polarization," Chem. Mater. **11**, 1590–1596 (1999).

1164. S. H. Chen, J. C. Mastrangelo, and R. J. Jin, "Glassy Liquid Crystal Films as Broadband Polarizers and Reflectors via Spatially Modulated Photoracemization," Adv. Mater. **11** (14), 1183–1186 (1999).

1163. S. R. Arrasmith, S. D. Jacobs, I. A. Kozhinova, L. L. Gregg, A. B. Shorey, H. J. Romanofsky, D. Golini, W. I. Kordonski, S. Hogan, and P. Dumas, "Studies of Material Removal in Magnetorheological Finishing (MRF) from Polishing Spots," in *Finishing of Advanced Ceramics and Glasses*, edited by R. Sabia, V. A. Greenhut, and C. G. Pantano, Ceramic Transactions, Vol. 102 (The American Ceramic Society, Westerville, OH, 1999), pp. 201–210.

1162. S. D. Jacobs, S. R. Arrasmith, I. A. Kozhinova, L. L. Gregg, A. B. Shorey, H. J. Romanofsky, D. Golini, W. I. Kordonski, P. Dumas, and S. Hogan, "An Overview of Magnetorheological Finishing (MRF) for Precision Optics," in *Finishing of Advanced Ceramics and Glasses*, edited by R. Sabia, V. A. Greenhut, and C. G. Pantano, Ceramic Transactions, Vol. 102 (The American Ceramic Society, Westerville, OH, 1999), pp. 185–199.

1161. V. A. Smalyuk, T. R. Boehly, D. K. Bradley, V. N. Goncharov, J. A. Delettrez, J. P. Knauer, D. D. Meyerhofer, D. Oron, D. Shvarts, Y. Srebro, and R. P. J. Town, "Nonlinear Evolution of Broad-Bandwidth, Laser-Imprinted Nonuniformities in Planar Targets Accelerated by 351-nm Laser Light," Phys. Plasmas **6** (10), 4022–4036 (1999).

1160. M. D. Wittman and R. S. Craxton, "Self-Interference Patterns and their Application to Inertial-Fusion Target Characterization," Appl. Opt. **38** (25), 5365–5371 (1999).

1159. A. Babushkin, R. S. Craxton, S. Oskoui, M. J. Guardalben, R. L. Keck, and W. Seka, "Demonstration of Dual-Tripler, Broadband Third-Harmonic Generation and Implications for OMEGA and the NIF," Proc. SPIE **3492**, 406–413 (1999).

1158. R. Sobolewski, "Ultrafast Dynamics of Nonequilibrium Quasiparticles in High-Temperature Superconductors," Proc. SPIE **3481**, 480–491 (1998).

1157. O. M. Efimov, L. B. Glebov, S. Papernov, and A. W. Schmid, "Laser-Induced Damage of Photo-Thermo-Refractive Glasses for Optical-Holographic-Element Writing," Proc. SPIE **3578**, 564–574 (1999).

1156. A. Babushkin, J. H. Kelly, C. T. Cotton, M. A. Labuzeta, M. O. Miller, T. A. Safford, R. G. Roides, W. Seka, I. Will, M. D. Tracy, and D. L. Brown, "Compact Nd^{3+}-Based Laser System with Gain $G \leq 10^{13}$ and Output Energy of 20 J," Proc. SPIE **3492**, 939–943 (1999).

1155. J. A. Marozas, "The Cross-Phase Modulation Between Two Intense Orthogonally Polarized Laser Beams Co-Propagating through a Kerr-like Medium," Proc. SPIE **3492**, 454–465 (1999).

1154. K. Green, W. R. Donaldson, R. L. Keck, A. V. Okishev, M. D. Skeldon, W. Seka, and R. Sobolewski, "Transient Bandwidth Analysis of Photoconductive Microwave Switches Implemented in the OMEGA Pulse-Shaping System," Proc. SPIE **3492**, 165–172 (1999).

1153. M. D. Skeldon, A. V. Okishev, R. L. Keck, W. Seka, and S. Letzring "An Optical Pulse Shaping System Based on Aperture-Coupled Striplines for OMEGA Pulse Shaping Applications," Proc. SPIE **3492**, 131–135 (1999).

1152. A. Babushkin, W. Bittle, S. A. Letzring, M. D. Skeldon, and W. Seka, "Regenerative Amplifier for the OMEGA Laser System," Proc. SPIE **3492**, 124–130 (1999).

1151. A. V. Okishev, M. D. Skeldon, and W. Seka, "Multipurpose, Diode-Pumped Nd:YLF Laser for OMEGA Pulse Shaping and Diagnostic Applications," Proc. SPIE **3492**, 118–123 (1999).

1150. F. Dahmani, J. C. Lambropoulos, S. Burns, S. Papernov, and A. W. Schmid, "How Small Stresses Affect 351-nm Damage Onset in Fused Silica," Proc. SPIE **3578**, 431–435 (1999).

1149. J. M. Larkin, W. R. Donaldson, T. H. Foster, and R. S. Knox, "Reverse Intersystem Crossing from a Triplet State of Rose Bengal Populated by Sequential 532- + 1064-nm Laser Excitation," Chem. Phys. **244**, 319–330 (1999).

1148. R. L. McCrory and J. M. Soures, "Status of Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," in *Current Trends in International Fusion Research—Proceedings of the Second Symposium*, edited by E. Panarella (NRC Research Press, Ottowa, Canada, 1999), pp. 251–259.

1147. V. N. Goncharov, "Theory of the Ablative Richtmeyer-Meshkov Instability," Phys. Rev. Lett. **82** (10), 2091–2094 (1999).

1146. J. D. Zuegel and W. Seka, "Upconversion and Reduced $^4F_{3/2}$ Upper-State Lifetime in Intensely Pumped Nd:YLF," Appl. Opt. **38** (12), 2714–2723 (1999).

1145. F. Dahmani, S. J. Burns, J. C. Lambropoulos, S. Papernov, and A. W. Schmid, "Arresting Ultraviolet-Laser Damage in Fused Silica," Opt. Lett. **24** (8), 516–518 (1999).

1144. S. D. Jacobs, W. I. Kordonski, and H. M. Pollicove, "Precision Control of Aqueous Magnetorheological Fluids for Finishing of Optics," in *Proceedings of the Sixth International Conference on Electro-Rheological Fluids, Magneto-Rheological Suspensions and Their Applications*, edited by M. Nakano and K. Koyama (World Scientific, Singapore, 1998), pp. 861–869.

1143. S. P. Regan, D. K. Bradley, A. V. Chirokikh, R. S. Craxton, D. D. Meyerhofer, W. Seka, R. W. Short, A. Simon, R. P. J. Town, B. Yaakobi, J. J. Caroll III, and R. P. Drake, "Laser–Plasma Interactions in Long-Scale-Length Plasmas Under Direct-Drive National Ignition Facility Conditions," Phys. Plasmas **6** (5) 2072–2080 (1999).

1142. S. Skupsky and R. S. Craxton, "Irradiation Uniformity for High-Compression Laser-Fusion Experiments," Phys. Plasmas **6** (5), 2157–2163 (1999).

1141. V. A. Smalyuk, T. R. Boehly, D. K. Bradley, V. N. Goncharov, J. A. Delettrez, J. P. Knauer, D. D. Meyerhofer, D. Oron, and D. Shvarts, "Saturation of the Rayleigh–Taylor Growth of Broad-Bandwidth Laser-Imposed Nonuniformities in Planar Targets," Phys. Rev. Lett. **81** (24), 5342–5345 (1998).

1140. A. V. Kanaev and C. J. McKinstrie, “Exact Green’s Function for a Class of Parametric Instabilities,” Phys. Plasmas **5** (12), 4511–4514 (1998).

1139. T. J. B. Collins, A. Frank, J. E. Bjorkman, and M. Livio, “Super Nova 1987A: Rotation and a Binary Companion,” Astrophys. J. **512**, 322–331 (1999).

1138. D. J. Smith, J. A. Warner, N. E. LeBarron, and S. LaDelia, “Production of Distributed Phase Plates Using an Energetic Ion Process,” Proc. SPIE **3578**, 702–717 (1999).

1137. A. L. Rigatti, D. J Smith, A. W. Schmid, S. Papernov, and J. H. Kelly, “Damage in Fused Silica Spatial-Filter Lenses on the OMEGA Laser System,” Proc. SPIE **3578**, 472–479 (1999).

1136. 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 Picosecond Response Times of Y-Ba-Cu-O Superconducting Photodetectors,” Appl. Phys. Lett. **74** (6), 853–855 (1999).

1135. 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,” Rev. Sci. Instrum. **70** (1), 647–650 (1999).

1134. S.-H. Chen, D. Katsis, A. W. Schmid, J. C. Mastrangelo, T. Tsutsui, and T. N. Blanton, “Circularly Polarized Light Generated by Photoexcitation of Luminophores in Glassy Liquid-Crystal Films,” Nature **397**, 506–508 (February 1999).

1133. 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 Transient-Scattering and the Extended-Scattering Modes,” Appl. Opt. **38** (8), 1287–1294 (1999).

1132. M. D. Skeldon, R. B. Saager, and W. Seka, “Quantitative Pump-Induced Wavefront Distortions in Laser-Diode- and Flashlamp-Pumped Nd:YLF Laser Rods,” IEEE J. Quantum Electron. **35** (3), 381–386 (1999).

1131. 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,” J. Mater. Res. **14** (2), 597–605 (1999).

1130. E. L. Alfonso, F.-Y. Tsai, S.-H. Chen, R. Q. Gram, and D. R. Harding, “Fabrication of Polyimide Shells by Vapor Phase Deposition for Use as ICF Targets,” Fusion Technol. **35** (2), 131–137 (1999).

1129. T. J. Murphy, J. M. Wallace, N. D. Delamater, Cris W. Barnes, P. Gobby, A. A. Hauer, E. Lindman, G. Magelssen, J. B. Moore, J. A. Oertel, R. Watt, O. L. Landen, P. Amendt, M. Cable, C. Decker, B. A. Hammel, J. A. Koch, L. J. Suter, R. E. Turner, R. J. Wallace, F. J. Marshall, D. Bradley, R. S. Craxton, R. Keck, J. P. Knauer, R. Kremens, and J. D. Schnittman, “Hohlraum Symmetry Experiments with Multiple Beam Cones on the Omega Laser Facility,” Phys. Rev. Lett. **81** (1), 108–111 (1998).

1128. A. V. Okishev, M. D. Skeldon, R. L. Keck, R. Roides, K. Green, and W. Seka, "A High-Bandwidth Optical-Pulse-Shaping/Fiber-Optic Distribution System for the High Energy OMEGA Laser-Fusion Facility," in the *Optical Fiber Communication Conference and the International Conference on Integrated Optics and Optical Fiber Communication 1999 Technical Digest* (Optical Society of America, Washington, DC, 1999), pp. 286–288.

1127. A. V. Okishev, M. D. Skeldon, and W. Seka, "A Highly Stable, Diode-Pumped Master Oscillator for the OMEGA Laser Facility," in *Advanced Solid-State Lasers*, edited by M. M. Fejer, H. Injeyan, and U. Keller, OSA TOPS, Vol. 26 (Optical Society of America, Washington, DC, 1999), pp. 228–235.

1126. 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. D. Wittman, and B. Yaakobi, "Inertial Confinement Fusion Experiments with OMEGA—A 30-kJ, 60-Beam UV Laser," Fusion Eng. Des. **44**, 35–42 (1999).

1125. C. J. McKinstrie, R. E. Giacone, and E. A. Startsev, "Accurate Formulas for the Landau Damping Rates of Electrostatic Waves," Phys. Plasmas **6** (2), 463–466 (1999).

1124. D. Katsis, A. W. Schmid, and S.-H. Chen, "Mechanistic Insight into Circularly Polarized Photoluminescence From a Chiral-Nematic Film," Liq. Cryst. **26** (2), 181–185 (1999).

1123. B. Yaakobi and F. J. Marshall, "Imaging the Cold, Compressed Shell in Laser Implosions Using the Kα Fluorescence of a Titanium Dopant," J. Quant. Spectrosc. Radiat. Transfer **61** (4), 465–472 (1999).

1122. 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," J. Mater. Sci. **33**, 4677–4685 (1998)

1121. S. Cremer, S. P. Verdon, and R. D. Petrasso, "Tertiary Proton Diagnostics in Future Inertial Confinement Fusion Experiments," Phys. Plasmas **5** (11), 4009–4014 (1998).

1120. E. M. Korenic, S. D. Jacobs, S. M Faris, and L. Li, "Cholesteric Liquid Crystal Transmission Profile Asymmetry," Mol. Cryst. Liq. Cryst. **317**, 221–235 (1998).

1119. E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Cholesteric Liquid Crystal Flakes—A New Form of Domain," Mol. Cryst. Liq. Cryst. **317**, 197–219 (1998).

1118. T. J. B. Collins, H. L. Helfer, and H. M. Van Horn, "A Model for Quasi-Periodic Oscillations in Cataclysmic Variables Based on Boundary Layer Oscillations," Astrophys. J. **508**, L159–L161 (1998).

1117. F. J. Marshall and G. R. Bennett, "A High-Energy X-Ray Microscope for Inertial Confinement Fusion," Rev. Sci. Instrum. **70** (1), 617–619 (1999).

1116. R. Betti, V. Lobatchev, and R. L. McCrory, "Feedout and Rayleigh-Taylor Seeding Induced by Long Wavelength Perturbations in Accelerated Planar Foils," Phys. Rev. Lett. **81** (25), 5560–5563 (1998).

1115. R. W. Short and A. Simon, "Collisionless Damping of Localized Plasma Waves in Laser-Produced Plasmas and Application to Stimulated Raman Scattering in Filaments," Phys. Plasmas **5** (12), 4134–4143 (1998).

1114. R. W. Short and A. Simon, "Landau Damping and Transit-Time Damping of Localized Plasma Waves in General Geometries," Phys. Plasmas **5** (12), 4124–4133 (1998).

1113. B. Yaakobi, F. J. Marshall, and D. K. Bradley, "Pinhole-Array X-Ray Spectrometer for Laser-Fusion Experiments," Appl. Opt. **37** (34), 8074–8080 (1998).

1112. B. M. Conger, D. Katsis, J. C. Mastrangelo, and S.-H. Chen, "Fluorescence of Pyrenyl and Carbazolyl Derivatives in Liquid Solution and Solid Film," J. Phys. Chem. A **102** (46), 9213–9218 (1998).

1111. D. J. Smith, A. Staley, R. Eriksson, and G. Algar, "Counter-Rotating Planetary Design for Large Rectangular Substrates," in the *41st Annual Technical Conference Proceedings* (Society of Vacuum Coaters, Albuquerque, NM, 1998), pp. 193–196.

1110. D. J. Smith, J. A. Warner, and N. LeBarron, "Uniformity Model for Energetic Ion Processes Using a Kaufman Ion Source," in *Optical Interference Coatings*, Vol. 9, 1998 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1998), pp. 8–10.

1109. M. B. Campanelli and D. J. Smith, "A Wideband Optical Monitor for a Planetary-Rotation Coating-System," in *Optical Interference Coatings*, Vol. 9, 1998 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1998), pp. 426–428.

1108. F. Dahmani, A. W. Schmid, J. C. Lambropoulos, and S. Burns, "Dependence of Birefringence and Residual Stress Near Laser-Induced Cracks in Fused Silica on Laser Fluence and on Laser-Pulse Number," Appl. Opt. **37** (33), 7772–7784 (1998).

1107. S.-H. Chen, B. M. Conger, J. C. Mastrangelo, A. S. Kende, and D. U. Kim, "Synthesis and Optical Properties of Thermotropic Polythiophene and Poly(*p*-phenylene) Derivatives," Macromolecules **31** (23), 8051–8057 (1998).

1106. E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Color Gamut of Cholesteric Liquid-Crystal Films and Flakes by Standard Colorimetry," Color Res. Appl. **23** (4), 210–220 (1998).

1105. E. L. Alfonso, S. H. Chen, R. Q Gram, and D. R. Harding, "Properties of Polyimide Shells Made Using Vapor Phase Deposition," J. Mater. Res. **13** (10), 2988–3000 (1998).

1104. O. E. Hanuch, V. B. Agrawal, S. Papernov, M. del Cerro, and J. V. Aquavella, "Posterior Capsule Polishing with the Neodymium: YLF Picosecond Laser: Model Eye Study," J. Cataract Refract. Surg. **23** (10), 1561–1571 (1997).

1103. R. Betti, "Beta Limits for the N = 1 Mode in Rotating-Toroidal-Resistive Plasmas Surrounded by a Resistive Wall," Phys. Plasmas **5** (10), 3615–3631 (1998).

1102. M. J. Guardalben, "Conoscopic Alignment Methods for Birefringent Optical Elements in Fusion Lasers," Appl. Opt. **36**, 9107–9109 (1997).

1101. S. G. Lukishova, K. S. Lebedev, E. A. Magulariya, S. V. Belyaev, N. V. Malimonenko, and A. W. Schmid, "Nonlinear 'Brightening' of a Film of Nonabsorbing Chiral Nematic Under Selective Reflection Conditions," JETP Lett. **63** (6), 423–428 (1996).

1100. 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** (9), 796–798 (1996).

1099. 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," Mol. Cryst. Liq. Cryst. **303**, 79–84 (1997).

1098. 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," Opt. Lett. **23** (12), 927–929 (1998).

1097. T. J. B. Collins, H. L. Helfer, and H. M. Van Horn, "Accretion Disk and Boundary Layer Models Incorporating OPAL Opacities," Astrophys. J. **502**, 730–736 (1998).

1096. S. J. McNaught, J. P. Knauer, and D. D. Meyerhofer, "Photoelectron Initial Conditions for Tunneling Ionization in a Linearly Polarized Laser," Phys. Rev. A **58** (2), 1399–1411 (1998).

1095. 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.

1094. P. M. Fauchet, "Porous Silicon: Photoluminescence and Electroluminescent Devices," in *Light Emission in Silicon*, edited by D. J. Lockwood, Semiconductors and Semimetals, Vol. 49 (Academic Press, Orlando, 1996), Chap. 6, pp. 205–252.

1093. S. Papernov, D. Zaksas, J. F. Anzellotti, D. J. Smith, A. W. Schmid, 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," Proc. SPIE **3244**, 434–445 (1998).

1092. S. Papernov, D. Zaksas, and A. W. Schmid, "Perfluorinated Polymer Films with Extraordinary UV-Laser-Damage Resistance," Proc. SPIE **3244**, 522–527 (1998).

1091. S. Papernov, D. Zaksas, and A. W. Schmid, "A Nonlinear UV-Damage Mechanism in Polymer Thin Films Observed from Below to Above Damage Threshold," Proc. SPIE **3244**, 509–515 (1998).

1090. S.-H. Chen, J. C. Mastrangelo, B. M. Conger, A. S. Kende, and K. L. Marshall, "Synthesis and Characterization of Thermotropic Chiral-Nematic Polythiophenes," Macromolecules **31**, 3391–3393 (1998).

1089. W. Göb, W. Lang, and R. Sobolewski, "Magnetoresistance of a $YBa_2Cu_3O_7$ Corbino Disk: Probing Geometrical Contributions to the Unconventional Normal-State Magnetoresistance of High-Temperature Superconductors," Phys. Rev. B: Rapid Commun. **57**, R8150–R8153 (1998).

1088. J. C. Lambropoulos, S. D. Jacobs, B. Gillman, F. Yang, and J. Ruckman, "Subsurface Damage in Microgrinding Optical Glasses," in *Advances in Fusion and Processing of Glass II*, edited by A. G. Clare and L. E. Jones, Ceramic Transactions, Vol. 82 (The American Ceramic Society, Westerville, OH, 1998), pp. 469–474.

1087. S. D. Jacobs, "Deterministic Manufacturing of Precision Glass Optics Using Magnetorheological Finishing (MRF)," in *Advances in Fusion and Processing of Glass II*, edited by A. G. Clare and L. E. Jones, Ceramic Transactions, Vol. 82 (The American Ceramic Society, Westerville, OH, 1998), pp. 457–468.

1086. C. Stockinger, W. Markowitsch, W. Lang, W. Kula, and R. Sobolewski, "Mechanisms of Photodoping in Oxygen-Deficient $YBa_2Cu_3O_x$ Films Studied by *In Situ* Transport Measurements," Phys. Rev. B **57** (14), 8702–8708 (1998).

1085. 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,* OSA Trends in Optics and Photonics Series, edited by M. Nuss and J. Bowers (Optical Society of America, Washington, DC, 1997), Vol. 13, pp. 102–105.

1084. D. Jacobs-Perkins, M. Currie, K. T. Tang, C. Williams, W. R. Donaldson, R. Sobolewski, and T. Y. Hsiang, "Subpicosecond Electro-optic Imaging Using Interferometric and Polarimetric Apparatus," in *Ultrafast Electronics and Optoelectronics, 1997*, OSA Trends in Optics and Photonics Series, edited by M. Nuss and J. Bowers (Optical Society of America, Washington, DC, 1997), Vol. 13, pp. 202–207.

1083. K. Green, M. Lindgren, C.-C. Wang, L. Fuller, T. Y. Hsiang, W. Seka, and R. Sobolewski, "Picosecond Photoresponse in Polycrystalline Silicon," in the *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. 106–109.

1082. 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," Proc. SPIE **2869**, 540–544 (1997).

1081. D. J. Smith, J. F. Anzellotti, S. Papernov, and Z. R. Chrzan, "High Laser-Induced-Damage Threshold Polarizer Coatings for 1054 nm," Proc. SPIE **2966**, 250 (1997).

1080. A. L. Rigatti and D. J. Smith, "Status of Optics on the OMEGA Laser System after 18 Months of Operation," Proc. SPIE **2966**, 441–450 (1997).

1079. O. A. Konoplev and D. D. Meyerhofer, "Cancellation of *B*-Integral Accumulation for CPA Lasers," IEEE J. Sel. Top. Quantum Electron. **4** (2), 459–469 (1998).

1078. C. J. McKinstrie and E. J. Turano, "Nonrelativistic Motion of a Charged Particle in an Electromagnetic Field," J. Plasma Phys. **59** (Part 3), 555–560 (1998).

1077. B. E. Gillman and S. D. Jacobs, "Bound-Abrasive Polishers for Optical Glass," Appl. Opt. **37** (16), 3498–3505 (1998).

1076. 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** (5), 1870–1879 (1998).

1075. 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** (5), 1446–1454 (1998).

1074. F. Yang, D. Golini, D. H. Raguin, and S. D. Jacobs, "Planarization of Gratings Using Magnetorheological Finishing," in *Science and Technology of Semiconductor Surface Preparation*, edited by G. S. Higashi, M. Hirose, S. Raghavan, and S. Verhaverbeke, Mat. Res. Soc. Symp. Proc. Vol. 477 (Materials Research Society, Pittsburgh, PA, 1997), pp. 131–136.

1073. 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," Proc. SPIE **3047**, 129–135 (1997).

1072. 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," Proc. SPIE **3047**, 272–281 (1997).

1071. A. V. Chirokikh, W. Seka, A. Simon, R. S. Craxton, and V. T. Tikhonchuk, "Stimulated Brillouin Scattering in Long-Scale-Length Laser Plasmas," Phys. Plasmas **5** (4), 1104–1109 (1998).

1070. B. Buerke, J. P. Knauer, S. J. McNaught, and D. D. Meyerhofer, "Precision Tests of Laser-Tunneling Ionization Models," in *Applications of High Field and Short Wavelength Sources VII*, Vol. 7, 1997 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1997), pp. 75–76.

1069. J. L. Chaloupka, T. J. Kessler, and D. D. Meyerhofer, "A Single-Beam, Ponderomotive-Optical Trap for Energetic Free Electrons," in *Applications of High Field and Short Wavelength Sources VII*, Vol. 7, 1997 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1997), p. 109.

1068. R. E. Giacone, C. J. McKinstrie, and R. Betti, "Response to 'Comment on "Angular Dependence of Stimulated Brillouin Scattering in Homogeneous Plasma" [Phys. Plasmas **5**, 1215 (1998)]'," Phys. Plasmas **5** (4), 1218–1219 (1998).

1067. R. L. Keck, A. V. Okishev, M. D. Skeldon, A. Babushkin, and W. Seka, "Pulse Shaping on the OMEGA Laser System," in *Laser Interaction and Related Plasma Phenomena,* edited by G. H. Miley and E. M. Campbell (American Institute of Physics, NY, 1997), Vol. 406, pp. 333–340.

1066. R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, "Feedthrough and Dynamic Stabilization in Convergent Geometry," in *Laser Interaction and Related Plasma Phenomena,* edited by G. H. Miley and E. M. Campbell (American Institute of Physics, NY, 1997), Vol. 406, pp. 294–302.

1065. J. P. Knauer, C. P. Verdon, D. D. Meyerhofer, T. R. Boehly, D. K. Bradley, V. A. Smalyuk, D. Ofer, 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," in *Laser Interaction and Related Plasma Phenomena,* edited by G. H. Miley and E. M. Campbell (American Institute of Physics, NY, 1997), Vol. 406, pp. 284–293.

1064. 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," in *Laser Interaction and Related Plasma Phenomena,* edited by G. H. Miley and E. M. Campbell (American Institute of Physics, NY, 1997), Vol. 406, pp. 122–129.

1063. 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," in *Laser Interaction and Related Plasma Phenomena,* edited by G. H. Miley and E. M. Campbell (American Institute of Physics, NY, 1997), Vol. 406, pp. 56–66.

1062. 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," Phys. Plasmas **5** (4), 1142–1147 (1998).

1061. 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," Phys. Plasmas **5** (4), 1118–1124 (1998).

1060. S. Papernov, A. Schmid, and F. Dahmani, "Laser Damage in Polymer Waveguides Driven Purely by a Nonlinear, Transverse Scattering Process," Opt. Commun. **147**, 112–116 (1998).

1059. H. Shi, B. M. Conger, D. Katsis, and S.-H. Chen, "Circularly Polarized Fluorescence from Chiral Nematic Liquid Crystalline Films: Theory and Experiment," Liq. Cryst. **24** (2), 163–172 (1998).

1058. M. Yu, C. J. McKinstrie, and G. P. Agrawal, "Temporal Modulation Instabilities of Counterpropagating Waves in a Finite Dispersive Kerr Medium. II. Application to Fabry–Perot Cavities," J. Opt. Soc. Am. B **15** (2), 617–624 (1998).

1057. M. Yu, C. J. McKinstrie, and G. P. Agrawal, "Temporal Modulation Instabilities of Counterpropagating Waves in a Finite Dispersive Kerr Medium. I. Theoretical Model and Analysis," J. Opt. Soc. Am. B **15** (2), 607–616 (1998).

1056. 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," J. Comput. Chem. **19** (1), 86–93 (1998).

1055. T. R. Boehly, R. L. McCrory, C. P. Verdon, J. M Soures, A. Babushkin, R. E. Bahr, R. Boni, D. K. Bradley, R. S. Craxton, J. A. Delettrez, W. R. Donaldson, R. Epstein, D. R. Harding, P. A. Jaanimagi, S. D. Jacobs, K. Kearney, R. L. Keck, J. H. Kelly, R. J. Kessler, R. L. Kremens, J. P. Knauer, S. A. Letzring, D. J. Lonobile, S. J. Loucks, L. D. Lund, F. J. Marshall, P. W. McKenty, D. D. Meyerhofer, S. F. B. Morse, A. Okishev, S. Papernov, G. Pien, T. Safford, W. Seka, R. W. Short, M. J. Shoup, III, M. D. Skeldon, S. Skupsky, A. W. Schmid, D. J. Smith, S. Swales, M. D. Wittman, and B. Yaakobi, "The First Year of ICF Experiments at the OMEGA Laser Facility," in *Fusion Energy 1996* (IAEA, Vienna, 1997), Vol. 3, pp. 31–42.

1054. R. Betti, V. Goncharov, R. L. McCrory, and C. P. Verdon, "Linear Theory of the Ablative Rayleigh–Taylor Instability," in *Advances in Laser Interaction with Matter and Inertial Fusion*, edited by G. Velarde, J. M. Martinez-Val, E. Minguez, and J. M Perlado (World Scientific, Singapore, 1997), pp. 125–128.

1053. R. L. McCrory, "The LLE Direct-Drive Target Physics Experimental Program: First Year of Experiments on OMEGA," in *Advances in Laser Interaction with Matter and Inertial Fusion*, edited by G. Velarde, J. M. Martinez-Val, E. Minguez, and J. M. Perlado (World Scientific, Singapore, 1997), pp. 16–19.

1052. 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," IEEE J. Quantum Electron. **34** (2), 286–291 (1998).

1051. 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.

1050. S. J. McNaught, J. P. Knauer, and D. D. Meyerhofer, "Photoelectron Drift Momentum in the Long-Pulse Tunneling Limit for an Elliptically Polarized Laser," Laser Phys. **7** (3), 712–718 (1997).

1049. B. Yaakobi, F. J. Marshall, D. K. Bradley, J. A. Delettrez, R. S. Craxton, and R. Epstein, "Novel Methods for Diagnosing Mixing and Laser-Fusion Target Performance Using X-Ray Spectroscopy of an Embedded Titanium Layer," Opt. Photonics News, 42–43 (December 1997).

1048. D. Golini, S. Jacobs, W. Kordonski, and P. Dumas, "Precision Optics Fabrication Using Magnetorheological Finishing," Proc. SPIE **CR67**, 251–274 (1997).

1047. 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," Proc. SPIE **3134**, 258–269 (1997).

1046. B. E. Gillman, B. M. Reed, M. A. Atwood, J. L. Ruckman, D. J. Quesnel, T. T. Ochinero, and S. D. Jacobs, "Application of Coolants in Deterministic Microgrinding of Glass," Proc. SPIE **3134**, 198–204 (1997).

1045. J. C. Lambropoulos, B. E. Gillman, Y. Zhou, S. D. Jacobs, and H. J. Stevens, "Glass-Ceramics: Deterministic Microgrinding, Lapping, and Polishing," Proc. SPIE **3134**, 178–189 (1997).

1044. S. Papernov and A. W. Schmid, "Localized Absorption Effects during 351 nm, Pulsed Laser Irradiation of Dielectric Multilayer Thin Films," J. Appl. Phys. **82** (11), 5422–5432 (1997).

1043. C. J. McKinstrie, J. S. Li, and A. V. Kanaev, "Near-Forward Stimulated Brillouin Scattering," Phys. Plasmas **4** (12), 4227–4231 (1997).

1042. D. D. Meyerhofer, "High-Intensity-Laser-Electron Scattering," IEEE J. Quantum Electron. **33** (11), 1935–1941 (1997).

1041. S. D. Jacobs and H. M. Pollicove, "Update on Magnetorheological Finishing," in *Progress in Precision Engineering and Nanotechnology*, Vol. 2, edited by H. Kunzmann, F. Wäldele, G. Wilkening, J. Corbett, P. McKeown, M. Weck, and J. Hümmler, Proceedings of the 9th International Precision Engineering Seminar (Braunschweig, Germany, 1997), pp. 620–623.

1040. O. A. Konoplev, Y. Fisher, I. A. Walmsley, and D. D. Meyerhofer, "Determination of the Third-Order Nonlinearities of Materials by Use of Frequency-Domain Interferometry," in *Conference on Lasers and Electro-Optics*, Vol. 11, 1997 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1997), pp. 275–276.

1039. L. Shi, T. Gong, W. Xiong, X. Weng, R. Sobolewski, and P. M. Fauchet, "Femtosecond Optical Spectroscopy of Partially Deoxygenated Y-Ba-Cu-O Thin Films," in *Ultrafast Phenomena IX*, edited by P. F. Barbara, W. H. Knox, G. A. Mourou, and A. H. Zewail, Springer Series in Chemical Physics, Vol. 60 (Springer-Verlag, Berlin, 1994), pp. 327–328.

1038. Z. Xu, J. V. Vandyshev, P. M. Fauchet, C. W. Rella, H. A. Schwettman, and C. C. Tsai, "Ultrafast Excitation and Deexcitation of Local Vibrational Modes in a Solid Matrix: The Si-H Bond in Amorphous Silicon," in *Ultrafast Phenomena X*, edited by P. F. Barbara, J. G. Fujimoto, W. H. Knox, and W. Zinth, Springer Series in Chemical Physics, Vol. 62 (Springer-Verlag, Berlin, 1996), pp. 410–411.

1037. P. M. Fauchet, G. W. Wicks, Ju V. Vandyshev, Z. Xu, C. W. Rella, and H. A. Schwettman, "Mid-Infrared Femtosecond Spectroscopy of Intersubband Hot Hole Relaxation in Quantum Wells," in *Ultrafast Phenomena X*, edited by P. F. Barbara, J. G. Fujimoto, W. H. Knox, and W. Zinth, Springer Series in Chemical Physics, Vol. 62 (Springer-Verlag, Berlin, 1996), pp. 398–399.

1036. P. M. Fauchet, "Photoluminescence and Electroluminescence from Porous Silicon," J. Lumin. **70**, 294–309 (1996).

1035. 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," Laser Part. Beams **13** (3), 423–440 (1995).

1034. B. M. Conger, J. C. Mastrangelo, and S.-H. Chen, "Fluorescence Behavior of Low Molar Mass and Polymer Liquid Crystals in Ordered Solid Films," Macromolecules **30** (14), 4049–4055 (1997).

1033. C. J. McKinstrie and E. J. Turano, "Spatiotemporal Evolution of Parametric Instabilities Driven by Short Laser Pulses: Two-Dimensional Analysis," Phys. Plasmas **4** (9), 3347–3357 (1997).

1032. M. Lindgren, M. Currie, C. A. Williams, T. Y. Hsiang, P. M. Fauchet, R. Sobolewski, S. H. Moffat, R. A. Hughes, J. S. Preston, and F. A. Hegmann, "Ultrafast Photoresponse in Microbridges and Pulse Propagation in Transmission Lines Made from High-T_c Superconducting Y–Ba–Cu–O Thin Films," IEEE J. Sel. Top. Quantum Electron. **2** (3), 668–678 (1996).

1031. D. Jacobs-Perkins, M. Currie, C.-C. Wang, C. A. Williams, W. R. Donaldson, R. Sobolewski, and T. Y. Hsiang, "Subpicosecond Imaging System Based on Electrooptic Effect," IEEE J. Sel. Top. Quantum Electron. **2** (3), 729–738 (1996).

1030. R. L. Kremens, J. T. Canosa, D. Brown, T. Hinterman, S. L. Letzring, M. Litchfield, D. Lonobile, R. G. Roides, M. Thomas, and R. Weaver, "The OMEGA Laser Electronic Timing System," Rev. Sci. Instrum. **68** (1), 943–946 (1997).

1029. R. Epstein, "Reduction of Time-Averaged Irradiation Speckle Nonuniformity in Laser-Driven Plasmas Due to Target Ablation," J. Appl. Phys. **82** (5), 2123–2139 (1997).

1028. J. M. Soures, "Inertial Fusion Research at the OMEGA Laser Facility," Physics News in 1996, 68–69 (1997).

1027. B. E. Gillman, Y. Zhou, S. D. Jacobs, and B. M. Reed, "Coolant/Tool Interactions in Deterministic Micro-Grinding of Glass," in *Supertech 1996* (Industrial Diamond Association, Skyland, NC, 1996), pp. 231–238.

1026. E. M. Korenic, S. D. Jacobs, S. M. Faris, and L. Li, "Colorimetry of Cholesteric Liquid Crystals," in *Optics & Imaging in the Information Age* (IS&T, Springfield, VA, 1997), pp. 220–223.

1025. M. J. Shoup III, J. H. Kelly, and D. L. Smith, "Design and Testing of a Large-Aperture, High-Gain, Brewster's Angle Zigzag Nd:Glass Slab Amplifier," Appl. Opt. **36** (24), 5827–5838 (1997).

1024. B. Yaakobi, F. J. Marshall, D. K. Bradley, J. A. Delettrez, R. S. Craxton, and R. Epstein, "Signatures of Target Performance and Mixing in Titanium-Doped, Laser-Driven Target Implosions," Phys. Plasmas **4** (8), 3021–3030 (1997).

1023. C. J. McKinstrie and E. A. Startsev, "Dephasing Time of an Electron Accelerated by a Laser Pulse," Phys. Rev. E **56** (2), 2130–2136 (1997).

1022. C. J. McKinstrie, A. V. Kanaev, and E. J. Turano, "Sideward Stimulated Raman Scattering of a Short Laser Pulse in a Plasma Channel," Phys. Rev. E **56** (1), 1032–1036 (1997).

1021. B. Yaakobi, R. S. Craxton, R. Epstein, and Q. Su, "Areal-Density Measurement of Laser Targets Using Absorption Lines," J. Quant. Spectrosc. Radiat. Transfer **58** (1), 75–83 (1997).

1020. J. L. Chaloupka, Y. Fisher, T. J. Kessler, and D. D. Meyerhofer, "Single-Beam, Ponderomotive-Optical Trap for Free Electrons and Neutral Atoms," Opt. Lett. **22** (13), 1021–1023 (1997).

1019. E. A. Startsev and C. J. McKinstrie, "Multiple Scale Derivation of the Relativistic Ponderomotive Force," Phys. Rev E **55** (6), 7527–7535 (1997).

1018. A. Babushkin, W. Bittle, S. A. Letzring, A. Okishev, M. D. Skeldon, and W. Seka, "Stable, Reproducible, and Externally Synchronizable Regenerative Amplifier for Shaped Optical Pulses for the OMEGA Laser System," in *Advanced Solid-State Lasers,* edited by C. R. Pollock and W. R. Bosedberg, OSA Trends in Optics and Photonics Series, Vol. 10 (Optical Society of America, Washington, DC, 1997), pp. 106–108.

1017. M. D. Skeldon, R. Saager, A. Okishev, and W. Seka, "Thermal Distortions in Laser-Diode- and Flash-Lamp-Pumped Nd:YLF Laser Rods," in *Conference on Lasers and Electro-Optics,* Vol. 11*,* 1997 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1997), p. 353.

1016. A. V. Okishev, W. Seka, J. H. Kelly. S. F. B. Morse, J. M. Soures, M. D. Skeldon, A. Babushkin, R. L. Keck, and R. G. Roides, "Pulse-Shaping System Implementation on the 60-Beam OMEGA Laser," in *Conference on Lasers and Electro-Optics,* Vol. 11*,* 1997 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1997), p. 389.

1015. A. V. Okishev and W. Seka, "Diode-Pumped, Single-Frequency, Pulsed Master Oscillator for the 60-Beam OMEGA Laser Facility," in *Conference on Lasers and Electro-Optics,* Vol. 11*,* 1997 OSA Technical Digest Series (Optical Society of America, Washington, DC, 1997), pp. 352–353.

1014. L. Zheng, O. A. Konoplev, and D. D. Meyerhofer, "Determination of the Optical-Axis Orientation of a Uniaxial Crystal by Frequency-Domain Interferometry," Opt. Lett. **22** (12), 931–933 (1997).

1013. S. Papernov and A. W. Schmid, "Heat Transfer from Localized Absorbing Defects to the Host Coating Material in HfO_2/SiO_2 Multilayer Systems," Proc. SPIE **2966**, 283–291 (1997).

1012. J. F. Anzellotti, D. J. Smith, R. J. Sczupak, and Z. R. Chrzan, "Stress and Environmental Shift Characteristics of HfO_2/SiO_2 Multilayer Coatings," Proc. SPIE **2966**, 258–264 (1997).

1011. A. V. Okishev and W. Seka, "Diode-Pumped Nd:YLF Master Oscillator for the 30-kJ (UV), 60-Beam OMEGA Laser Facility," IEEE J. Sel. Top. Quantum Electron. **3** (1), 59–63 (1997).

1010. E. L. Alfonso, S.-H. Chen, M. D. Wittman, S. Papernov, and D. Harding, "A Parametric Study of Microencapsulation Approach to the Preparation of Polystyrene Shells," Polymer **38** (7), 1639–1646 (1997).

1009. A. V. Okishev and W. Seka, "Diode-Pumped, Single-Frequency Nd:YLF Laser for 60-Beam OMEGA Laser Pulse-Shaping System," Proc. SPIE **2986**, 93–98 (1997).

1008. 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," in the *8-th Laser Optics Conference Technical Digest*, *Volume II*, St. Petersburg, Russia, 27 June–1 July 1995, pp. 121–122. (Note: Not available in publication, only as an abstract.)

1007. J. Z. Roach and S. W. Swales, "Network-Based Imaging System for the OMEGA Laser System," Proc. SPIE **2784**, 145–152 (1996).

1006. S. J. McNaught, J. P. Knauer, and D. D. Meyerhofer, "Measurement of the Initial Condition of Electrons Ionized by a Linearly Polarized, High-Intensity Laser," Phys. Rev. Lett. **78** (4), 626–629 (1997).

1005. C. J. McKinstrie, V. A. Smalyuk, R. E. Giacone, and H. X. Vu, "Power Exchange between Crossed Laser Beams and the Associated Frequency Cascade," Phys. Rev. E **55** (2), 2044–2047 (1997).

1004. F. J. Marshall and J. A. Oertel, "A Framed Monochromatic X-Ray Microscope for ICF," Rev. Sci. Instrum. **68** (1), 735–739 (1997) (invited).

1003. S.-H. Chen, H. Shi, J. C. Mastrangelo, and J. J. Ou, "Thermotropic Chiral Nematic Side-Chain Polymers and Cyclic Oligomers," Prog. Polym. Sci. **21**, 1211–1233 (1996).

1002. B. Yaakobi, F. J. Marshall, and R. Epstein, "High Temperature of Laser-Compressed Shells Measured with Kr^{34+} and Kr^{35+} X-Ray Lines," Phys. Rev. E **54** (5), 5848–5850 (1996).

1001. B. Yaakobi, F. J. Marshall, and J. A. Delettrez, "Abel Inversion of Cryogenic Laser Target Images," Opt. Commun. **133**, 43–49 (1997).

1000. T. R. Boehly, D. L. Brown, R. S. Craxton, R. L. Keck, J. P. Knauer, J. H. Kelly, T. J. Kessler, S. A. Kumpan, S. J. Loucks, S. A. Letzring, F. J. Marshall, R. L. McCrory, S. F. B. Morse, W. Seka, J. M. Soures, and C. P. Verdon, "Initial Performance Results of the OMEGA Laser System," Opt. Commun. **133**, 495–506 (1997).

999. C. J. McKinstrie and E. J. Turano, "Spatiotemporal Evolution of Parametric Instabilities Driven by Short Laser Pulses: One-Dimensional Analysis," Phys. Plasmas **3** (12), 4683–4696 (1996).

998. A. V. Okishev, M. D. Skeldon, S. A. Letzring, W. R. Donaldson, A. Babushkin, and W. Seka, "The Pulse-Shaping System for the 60-Beam, 30-kJ (UV) OMEGA Laser," Proc. SPIE **2770**, 10–17 (1995).

997. S.-H. Chen, H. Shi, B. M. Conger, J. C. Mastrangelo, and T. Tsutsui, "Novel Vitrifiable Liquid Crystals as Optical Materials," Adv. Mater. **8** (12), 998–1001 (1996).

996. S.-H. Chen, J. C. Mastrangelo, H. Shi, T. N. Blanton, and A. Bashir-Hashemi, "Novel Glass-Forming Organic Materials. 3. Cubane with Pendant Nematogens, Carbazole, and Disperse Red 1," Macromolecules **30** (1), 93–97 (1997).

995. J. C. Mastrangelo, B. M. Conger, S.-H. Chen, and A. Bashir-Hashemi, "Novel Glass-Forming Organic Materials. 2. Structure and Fluorescence of Pyrene- and Carbazole-Containing Cyclohexane, Bicyclooctene, and Adamantane," Chem. Mater. **9** (1), 227–232 (1997).

994. K. L. Baker, R. P. Drake, B. S. Bauer, K. G. Estabrook, A. M. Rubenchik, C. Labaune, H. A. Baldis, N. Renard, S. D. Baton, E. Schifano, A. Michard, W. Seka, and R. Bahr, "Thomson Scattering Measurements of the Langmuir Wave Spectra Resulting from Stimulated Raman Scattering," Phys. Rev. Lett. **77** (1), 67–70 (1996).

993. T. R. Boehly, R. S. Craxton, T. H. Hinterman, P. A. Jaanimagi, R. L. Keck, 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," in the *Proceedings of the IAEA Technical Committee Meeting On Drivers for Inertial Confinement Fusion*, edited by J. Coutant (IAEA, Vienna, 1995), pp. 79–86.

992. V. N. Goncharov, R. Betti, R. L. McCrory, and C. P. Verdon, "Self-Consistent Stability Analysis of Ablation Fronts with Small Froude Numbers," Phys. Plasmas **3** (12), 4665–4676 (1996).

991. H. Shi and S.-H. Chen, "Theory of Circularly Polarized Light Emission from Chiral Nematic Liquid Crystalline Films," in *Liquid Crystals for Advanced Technologies,* edited by T. J. Bunning, S.-H. Chen, W. Hawthorne, N. Koide, and T. Kajiyama, Materials Research Society Symposium Proceedings (Materials Research Society, Pittsburgh, PA, 1996), Vol. 425 , pp. 245–251.

990. H. Shi, D. Katsis, S.-H. Chen, M. E. De Rosa, W. W. Adams, and T. J. Bunning, "Dynamics of Defect Annihilation in Vitrified Liquid Crystalline (VLC) Thin Films Upon Thermal Annealing," in *Liquid Crystals for Advanced Technologies,* edited by T. J. Bunning, S.-H. Chen, W. Hawthorne, N. Koide, and T. Kajiyama, Materials Research Society Symposium Proceedings (Materials Research Society, Pittsburgh, PA, 1996), Vol. 425 , pp. 27–32.

989. B. M. Conger, H. Shi, S.-H. Chen, and T. Tsutsui, "Polarized Fluorescence from Vitrified Liquid Crystalline Films," in *Liquid Crystals for Advanced Technologies,* edited by T. J. Bunning, Materials Research Society Symposium Proceedings, Vol. 425 (Materials Research Society, Pittsburgh, PA, 1996), pp. 239–244.

988. J. C. Mastrangelo, S.-H. Chen, T. N. Blanton, and A. Bashir-Hashemi, "Vitrification and Morphological Stability of Liquid Crystals," in *Liquid Crystals for Advanced Technologies,* edited by T. J. Bunning, Materials Research Society Symposium Proceedings, Vol. 425 (Materials Research Society, Pittsburgh, PA, 1996), pp. 19–25.

987. S.-H. Chen, H. Shi, B. M. Conger, D. Katsis, and J. C. Mastrangelo, "Novel Vitrified Liquid Crystals and Potential Applications," in *Liquid Crystals for Advanced Technologies,* edited by T. J. Bunning, Materials Research Society Symposium Proceedings, Vol. 425 (Materials Research Society, Pittsburgh, PA, 1996), pp. 13–18.

986. C. I. Moore, J. P. Knauer, and D. D. Meyerhofer, "Reply to Comment on 'Observation of the Transition from Thomson to Compton Scattering in Multiphoton Interactions with Low-Energy Electrons'," Phys. Rev. Lett. **77** (11), 2334 –2335 (1996).

985. J. D. Schnittman and R. S. Craxton, "Indirect-Drive Radiation Uniformity in Tetrahedral Hohlraums," Phys. Plasmas **3** (10), 3786–3797 (1996).

984. C. T. Cotton, "Design of an All-Spherical, Three-Mirror, Off-Axis Telescope Objective," in *OSA Proceedings of the International Optical Design Conference*, edited by G. W. Forbes (Optical Society of America, Washington, DC, 1994), Vol. 22, pp. 349–351.

983. S.-H. Chen, J. C. Mastrangelo, T. N. Blanton, A. Bashir-Hashemi, and K. L. Marshall, "Novel Glass-Forming Liquid Crystals. IV. Effects of Central Core and Pendant Group on Vitrification and Morphological Stability," Liq. Cryst. **21** (5), 683–694 (1996).

982. Y. Lin, T. J. Kessler, and G. N. Lawrence, "Design of Continuous Surface-Relief Phase Plates by Surface-Based Simulated Annealing to Achieve Control of Focal-Plane Irradiance," Opt. Lett. **21** (20), 1703–1705 (1996).

981. S. D. Jacobs, B. E. Gillman, J. C. Lambropoulos, T. Fang, Y. Zhou, D. Golini, and M. Atwood, "The Effect of the Coolant on the Glass Work and the Diamond Tool in Deterministic Microgrinding," in *Precision Grinding of Brittle Materials* (ASPE, Raleigh, NC, 1996), pp. 121–126.

980. D. Golini, S. Jacobs, Y. Zhou, E. Fess, and M. Atwood, "Aspheric Surface Generation Requirements for Magnetorheological Finishing," in *OSA TOPS on Extreme Ultraviolet Lithography*, *1996*, edited by G. D. Kubiak and D. Kania (Optical Society of America, Washington, DC, 1996), Vol. 4, pp. 98–102.

979. F. Yang, J. Y. Zhou, V. Kordonski, and S. D. Jacobs, "Indentation Size Effect of Thermoset Polymer: Allyl Diglycol Carbonate (CR-39)," J. Mater. Sci. Lett. **15**, 1523–1525 (1996).

978. C. J. McKinstrie and E. A. Startsev, "Electron Acceleration by a Laser Pulse in a Plasma," Phys. Rev. E **54** (2), R1070–R1073 (1996).

977. 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 Laser to Validate High-Gain, Direct-Drive Performance on the National Ignition Facility," in *Laser Interaction and Related Plasma Phenomena*, edited by S. Nakai and G. H. Miley (American Institute of Physics, Woodbury, NY, 1996), Vol. 369, pp. 71–79.

976. D. Ofer, U. Alon, D. Shvarts, R. L. McCrory, and C. P. Verdon, "Modal Model for the Nonlinear Multimode Rayleigh-Taylor Instability," Phys. Plasmas **3** (8), 3073–3090 (1996).

975. B. Yaakobi, R. Epstein, C. F. Hooper, Jr., D. A. Haynes, Jr., and Q. Su, "Diagnosis of High-Temperature Implosions Using Low- and High-Opacity Krypton Lines," J. X-Ray Sci. Technol. **6**, 172–187 (1996).

974. B. Yaakobi, R. S. Craxton, R. Epstein, and Q. Su, "Diagnosis of Core-Shell Mixing Using Absorption and Emission Spectra of a Doped Layer," J. Quant. Spectrosc. Radiat. Transfer **55** (6), 731–739 (1996).

973. S. Papernov and A. W. Schmid, "A Comparison of Laser-Induced Damage Morphology in Three Model Thin-Film Systems: HfO_2, Y_2O_3, and Ta_2O_5," Proc. SPIE **2428**, 385–396 (1995).

972. R. S. Marjoribanks, F. W. Budnik, H. Chen, and D. D. Meyerhofer, "Electron Temperature in Transient Plasmas from Quasi-Steady Ratio of Isoelectronic Lines: Application to Picosecond and Subpicosecond Plasmas," J. Opt. Soc. Am. B **13** (2), 380–384 (1996).

971. C. J. McKinstrie, J. S. Li, R. E. Giacone, and H. X. Vu, "Two-Dimensional Analysis of the Power Transfer Between Crossed Laser Beams," Phys. Plasmas **3** (7), 2686–2692 (1996).

970. W. Seka, J. D. B. Featherstone, D. Fried, S. R. Visuri, and J. T. Walsh, "Laser Ablation of Dental Hard Tissue: From Explosive Ablation to Plasma-Mediated Ablation," Proc. SPIE **2672**, 144–158 (1996).

969. B. Yaakobi, D. Shvarts, R. Epstein, and Q. Su, "X-Ray Backlighting Imaging of Mixed Imploded Targets," Laser Part. Beams **14** (1), 81–91 (1996).

968. R. Betti, V. N. Goncharov, R. L. McCrory, P. Sorotokin, and C. P. Verdon, "Self-Consistent Stability Analysis of Ablation Fronts in Inertial Confinement Fusion," Phys. Plasmas **3** (5), 2122–2128 (1996).

967. J. M. Soures, R. L. McCrory, C. P. Verdon, A. Babushkin, R. E. Bahr, T. R. Boehly, 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, S. J. Loucks, 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, "Direct-Drive Laser-Fusion Experiments with the OMEGA, 60-Beam, >40-kJ, Ultraviolet Laser System," Phys. Plasmas **3** (5), 2108–2112 (1996).

966. 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, "Direct-Drive Laser Fusion Experimental Program at the University of Rochester's Laboratory for Laser Energetics," in *Plasma Physics and Controlled Nuclear Fusion Research 1994* (IAEA, Vienna, 1996), Vol. 3, pp. 33–37.

965. 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," in *Applied Superconductivity 1995*, edited by D. Dew-Hughes, Proceedings of EUCAS 1995, Vol. 2 (Institute of Physics, Bristol, UK, 1995), pp. 787–791.

964. W. Kula, R. Adam, and R. Sobolewski, "Y-Ba-Cu-O Thin-Film Structures with a Nonuniform In-Depth Oxygen Concentration Profile," in *Applied Superconductivity 1995,* edited by D. Dew-Hughes, Proceedings of EUCAS 1995, Vol. 2 (Institute of Physics, Bristol, UK, 1995), pp. 895–898.

963. W. Kordonski and S. Jacobs, "Model of Magnetorheological Finishing," in *Sixth International Conference on Adaptive Structures*, edited by C. A. Rogers, J. Tani, and E. J. Breitbach (Technomic Publishing Co., Lancaster, PA, 1996), pp. 63–74.

962. H. Shi, S.-H. Chen, M. E. De Rosa, T. J. Bunning, and W. W. Adams, "Dynamic Mechanical Properties of Cyclohexane-Based Glass-Forming Liquid Crystals and a Linear Side Chain Polymer Analogue," Liq. Cryst. **20** (3), 277–282 (1996).

961. V. N. Goncharov, R. Betti, R. L. McCrory, P. Sorotokin, and C. P. Verdon, "Self-Consistent Stability Analysis of Ablation Fronts with Large Froude Numbers," Phys. Plasmas **3** (4), 1402–1414 (1996).

960. P. M. Fauchet, L. Tsybeskov, C. Peng, S. P. Duttagupta, J. von Behren, Y. Kostoulas, J. M. V. Vandyshev, and K. D. Hirschman, "Light-Emitting Porous Silicon: Materials Science, Properties, and Device Applications," IEEE J. Sel. Top. Quantum Electron. **1** (4), 1126–1139 (1995).

959. J. C. Mastrangelo, S.-H. Chen, and T. N. Blanton, "Glass-Forming Ability and Morphological Stability of Cyclohexane and Biocyclooctene Rings Containing Disperse Red 1," Chem. Mater. **7**, 1904–1908 (1995).

958. R. L. McCrory, Jr., "Progress Toward Ignition with Direct-Drive," in *Great Systems in Science and Technology*, edited by J. Horowitz and J. L. Lions (Mason Publishing, Paris, France, 1993), pp. 555–569.

957. 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," in the *Proceedings of the 7th Annual Meeting of LEOS '94 IEEE Lasers and Electro-Optics Society* (IEEE, Boston, MA, 1994), pp. 21–22.

956. D. D. Meyerhofer, J. P. Knauer, S. J. McNaught, and C. I. Moore, "Observation of Relativistic Mass Shift Effects during High-Intensity-Laser–Electron Interactions," J. Opt. Soc. Am. B **13** (1), 113–117 (1996).

955. X. Zhou, S. Alexandrou, and T. Y. Hsiang, "Monte Carlo Investigation of the Intrinsic Mechanism of Subpicosecond Pulse Generation by Nonuniform Illumination," J. Appl. Phys. **77** (2), 706–711 (1995).

954. S. D. Jacobs, "Nanodiamonds Enhance Removal in Magnetorheological Finishing," Finer Points **7** (4), 47–54 (1995).

953. R. Adam, W. Kula, R. Sobolewski, J. M. Murduck, and C. Pettiette-Hall, "Laser-Induced Modification of Transport Properties of Y–Ba–Cu–O Step-Edge Weak Links," Appl. Phys. Lett. **67** (25), 3801–3803 (1995).

952. E. M. Korenic, S. D. Jacobs, S. M. Faris, and J. S. Li, "Colorimetry of Fractured Cholesteric Liquid Crystal Polymers," in the *Proceedings of The Third IS&T/SID Color Imaging Conference: Color Science, Systems and Applications* (IS&T, Springfield, VA, 1995), pp. 60–62.

951. 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," Liq. Cryst. **19** (3), 339–344 (1995).

950. B. E. Puchebner and S. D. Jacobs, "Development of New Bound Abrasive Polishers for Final Finishing of Optical Glasses," Proc. SPIE **2536**, 256–264 (1995).

949. C. T. Cotton, "Design Considerations for the OMEGA Upgrade Final Focus Lens," Proc. SPIE **2537**, 308–315 (1995).

948. H. Shi and S.-H. Chen, "Effects of Stereochemistry, Mesogenic Core and Spacer Length on Crystallization from Nematic and Isotropic Melts of Cyclohexane-Based Glass-Forming Liquid Cystals," Liq. Cryst. **19** (6), 785–790 (1995).

947. H. Shi and S.-H. Chen, "Novel Glass-Forming Liquid Crystals. III Helical Sense and Twisting Power in Chiral Nematic Systems," Liq. Cryst. **19** (6), 849–861 (1995).

946. M. D. Skeldon, A. Okishev, A. Babushkin, and W. Seka, "Transient Stimulated Brillouin Scattering Pulse Compression for Photoconductive Switch Activation," Proc. SPIE **2633**, 422–429 (1995).

945. K. Green, W. R. Donaldson, R. Sobolewski, A. Okishev, M. D. Skeldon, S. A. Letzring, and W. Seka, "Transient Microwave Bandwidth Measurements of Illuminated Silicon Switches for Optical Pulse-Shape Control of Laser-Fusion Drivers," Proc. SPIE **2633**, 615–621 (1995).

944. M. Yu and C. J. McKinstrie, "Impulse Response of a Nonlinear Dispersive Wave," Phys. Rev. E **52** (6), 6826–6832 (1995).

943. J. Peatross and D. D. Meyerhofer, "Intensity-Dependent Atomic-Phase Effects in High-Order Harmonic Generation," Phys. Rev. A **52** (5), 3976–3987 (1995).

942. R. E. Giacone, C. J. McKinstrie, and R. Betti, "Angular Dependence of Stimulated Brillouin Scattering in Homogeneous Plasma," Phys. Plasmas **2** (12), 4596–4605 (1995).

941. S.-H. Chen, J. C. Mastrangelo, H. Shi, A. Bashir-Hashemi, J. Li, and N. Gelber, "Novel Glass-Forming Organic Materials. 1. Adamantane With Pendant Cholesteryl, Disperse Red, and Nematogenic Groups," Macromolecules **28** (23), 7775–7778 (1995).

940. 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," Fusion Technol. **26**, 722–729 (1994).

939. X. D. Cao and D. D. Meyerhofer, "Optimization of Pulse Shaping Using Nonlinear Polarization Rotation," Opt. Commun. **120**, 316–320 (1995).

938. K. L. Marshall, S. D. Jacobs, and J. E. Miller, "Midinfrared Modulation Through the Use of Field-Induced Scattering in Ferroelectric Liquid Crystals," Appl. Opt. **34** (29), 6704–6713 (1995).

937. J. D. Zuegel and W. Seka, "Direct Measurements of $^4I_{11/2}$ Terminal-Level Lifetime in Nd:YLF," IEEE J. Quantum Electron. **31** (10), 1742–1746 (1995).

936. A. Simon, “Parametric Excitation of Bernstein Modes in Laser-Produced Plasma,” Phys. Plasmas **2** (10), 3832–3843 (1995).

935. R. Betti, V. N. Goncharov, R. L. McCrory, and C. P. Verdon, “Self-Consistent Cutoff Wave Number of the Ablative Rayleigh-Taylor Instability,” Phys. Plasmas **2** (10), 3844–3851 (1995).

934. 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,” Phys. Plasmas **2** (6), 2465–2472 (1995).

933. M. Yu, G. P. Agrawal, and C. J. McKinstrie, “Effect of Residual Dispersion in the Phase-Conjugation Fiber on Dispersion Compensation in Optical Communication Systems,” IEEE Photonics Technol. Lett. **7** (8), 932–934 (1995).

932. S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, Wm. I. Kordonski, I. V. Prokhorov, E. Fess, D. Pietrowski, and V. W. Kordonski, “Magnetorheological Finishing: A Deterministic Process for Optics Manufacturing,” Proc. SPIE **2576**, 372–382 (1995).

931. J. C. Mastrangelo, H. Shi, S. H. Chen, and T. N. Blanton, “Design, Synthesis, and Stability of Organic Glasses for Advanced Optical Applications,” Polymer Reprints **36** (2), 43–44 (1995).

930. W. Lang, G. Heine, W. Kula, and R. Sobolewski, “Superconducting Fluctuations in $Bi_2Sr_2Ca_2Cu_3O_x$ Thin Films: Paraconductivity, Excess Hall Effect, and Magnetoconductivity,” Phys Rev. B **51** (14), 9180–9192 (1995).

929. 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.

928. C. J. McKinstrie and E. A. Startsev, “Wave Propagation in a Drifting Plasma,” Phys. Plasmas **2** (8), 3234–3236 (1995).

927. F. A. Hegmann, D. Jacobs-Perkins, C.-C. Wang, S. H. Moffat, R. A. Hughes, J. S. Preston, M. Currie, P. M. Fauchet, T. Y. Hsiang, and R. Sobolewski, “Electro-Optic Sampling of 1.5-ps Photoresponse Signal from $YBa_2Cu_3O_{7-\delta}$ Thin Films,” Appl. Phys. Lett. **67** (2), 285–287 (1995).

926. 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** (2), 3156–3159 (1995).

925. 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** (2), 2849–2852 (1995).

924. M. Yu, C. J. McKinstrie, and G. P. Agrawal, “Modulational Instabilities in Dispersion-Flattened Fibers,” Phys. Rev. E **52** (1), 1072–1080 (1995).

923. 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," Phys. Rev. A **52** (1), 125–129 (1995).

922. 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** (6), 1126–1132 (1995).

921. Y. Kostoulas, L. J. Waxer, I. A. Walmsley, G. W. Wicks, and P. M. Fauchet, "Femtosecond Carrier Dynamics in Low-Temperature-Grown Indium Phosphide," Appl. Phys. Lett. **66** (14), 1821–1823 (1995).

920. L. Zheng and D. D. Meyerhofer, "Cross-Correlation Technique for Single-Shot Measurements of Weak Light Pulses," Opt. Lett. **20** (4), 407–409 (1995).

919. 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** (24), 3325–3327 (1995).

918. 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," Appl. Phys. Lett. **67** (1), 79–81 (1995).

917. 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** (1), 508–510 (1995).

916. S. D. Jacobs, "Finish Polishing of Optics with Magnetic Media," in *International Progress in Precision Engineering*, Proceedings of the 8th International Precision Engineering Seminar (Elsevier, Compiegne, France, 1995), pp. 357–360.

915. S. D. Jacobs, D. Golini, Y. Hsu, B. E. Puchebner, D. Strafford, Wm. I. Kordonshy, 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*, Proceedings of the 8th International Precision Engineering Seminar (Elsevier, Compiegne, France, 1995), pp. 371–374.

914. M. J. Cumbo, D. Fairhurst, S. D. Jacobs, and B. E. Puchebner, "Slurry Particle Size Evolution during the Polishing of Optical Glass," Appl. Opt. **34** (19), 3743–3755 (1995).

913. D. Gupta, W. R. Donaldson, and A. M. Kadin, "Transient Flux Dynamics in Optically Irradiated YBCO Thin-Film Switches," IEEE Trans. Appl. Supercond. **5** (2), 1371–1374 (1995).

912. D. Gupta, W. R. Donaldson, and A. M. Kadin, "Rapid Flux Motion and Critical State Dynamics in a Superconducting Disk," J. Appl. Phys. **78** (1), 372–379 (1995).

911. 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** (4), 1086–1092 (1995).

910. D. Fried, R. E. Glena, J. D. B. Featherstone, and W. Seka, "Multiple Pulse Irradiation of Dental Hard Tissues at CO_2 Laser Wavelengths," Proc. SPIE **2394**, 41–50 (1995).

909. J. D. B. Featherstone, N. A. Barrett-Vespone, D. Fried, Z. Kantorowitz, J. Lofthouse, and W. Seka, "Rational Choice of Laser Conditions for Inhibition of Caries Progression," Proc. SPIE **2394**, 57–67 (1995).

908. W. Seka, D. Fried, J. D. B. Featherstone, and R. E. Glena, "Time-Dependent Reflection and Surface Temperatures During CO_2 Laser Irradiation of Dental Hard Tissues with 100-μs Pulses," Proc. SPIE **2394**, 51–56 (1995).

907. 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** (5), 733–741 (1995).

906. S.-H. Chen and S. Krishnamurthy, "Some Fundamental Issues Governing Thermotropic Chiral Nematic Copolymers," Polymer Preprints, Japan **42** (1), 122–125 (1993).

905. M. Currie, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, "Picosecond Pulse Generation by Edge Illumination of Si and InP Photoconductive Switches," in *Ultrafast Electronics and Optoelectronics,* OSA Technical Digest Series (Optical Society of America, Washington, DC, 1995), Vol. 13, pp. 131–133.

904. C.-C. Wang, M. Currie, and T. Y. Hsiang, "All-Silicon, Ultrafast, Integrable Optoelectronic Interface," in *Ultrafast Electronics and Optoelectronics*, OSA Technical Digest Series (Optical Society of America, Washington, DC, 1995), Vol. 13, pp. 144–146.

903. D. Jacobs-Perkins, M. Currie, C.-C. Wang, R. Sobolewski, M. J. Feldman, and T. Y. Hsiang, "First Direct Observation of Single-Flux-Quantum Pulses," in *Ultrafast Electronics and Optoelectronics,* OSA Technical Digest Series (Optical Society of America, Washington, DC, 1995), Vol. 13, pp. 58–60.

902. S.-H. Chen, "Novel Low Molar Mass Glass-Forming Liquid Crystals: Synthesis, Characterization and Morphological Stability," Polymer Preprints, Japan **43** (5), 1674–1675 (1994).

901. R. Betti and J. P. Freidberg, "Stability Analysis of Resistive Wall Kink Modes in Rotating Plasmas," Phys. Rev. Lett. **74** (15), 2949–2952 (1995).

900. M. D. Skeldon, "Transverse Modulational Instabilities in the Presence of Stimulated Rotational Raman Scattering with a High-Energy Laser," Opt. Lett. **20** (8), 828–830 (1995).

899. 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** (4), 3752–3755 (1995).

898. 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** (17), 2212–2214 (1995).

897. Y. Lin, T. J. Kessler, and G. N. Lawrence, "Distributed Phase Plates for Super-Gaussian Focal-Plane Irradiance Profiles," Opt. Lett. **20** (7), 764–766 (1995).

896. E. M. Korenic and K. L. Marshall, "Blending Polysiloxane Glass Resins to Produce Optical Films with a Specific Refractive Index," Opt. Photonics News (Supplement) **6** (2) (1995).

895. C. I. Moore, J. P. Knauer, and D. D. Meyerhofer, "Observation of the Transition from Thomson to Compton Scattering in Multiphoton Interactions with Low-Energy Electrons," Phys. Rev. Lett. **74** (13), 2439–2442 (1995).

894. J. P. Knauer, R. L. Kremens, M. A. Russotto, and S. Tudman, "Using Cosmic Rays to Monitor Large Scintillator Arrays," Rev. Sci. Instrum. **66** (1), 926–928 (1995).

893. B. Yaakobi, F. J. Marshall, Q. Su, and R. Epstein, "Monochromatic Backlighting as a Laser-Fusion Diagnostic," J. X-Ray Sci. Technol. **5** (1), 73–87 (1995).

892. C. Y. Chien, G. Korn, J. S. Coe, J. Squier, G. Mourou, and R. S. Craxton, "Highly Efficient Second-Harmonic Generation of Ultraintense Nd:Glass Laser Pulses," Opt. Lett. **20** (4), 353–355 (1995).

891. 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** (4), 392–394 (1995).

890. D. Fried, R. E. Glena, J. D. B. Featherstone, and W. Seka, "Nature of Light Scattering in Dental Enamel and Dentin at Visible and Near-Infrared Wavelengths," Appl. Opt. **34** (7), 1278–1285 (1995).

889. F. J. Marshall and Q. Su, "Quantitative Measurements with X-Ray Microscopes in Laser-Fusion Experiments," Rev. Sci. Instrum. **66** (1), 725–727 (1995).

888. P. A. Jaanimagi, R. C. Elton, B. L. Welch, Y. Leng, and H. R. Griem, "Extending X-Ray Streak Camera Operation to Vacuum Ultraviolet Wavelengths," Rev. Sci. Instrum. **66** (1), 713–715 (1995).

887. D. K. Bradley, P. M. Bell, O. L. Landen, J. D. Kilkenny, and J. Oertel, "Development and Characterization of a Pair of 30–40 ps X-Ray Framing Cameras," Rev. Sci. Instrum. **66** (1), 716–718 (1995).

886. J. Peatross and D. D. Meyerhofer, "Angular Distribution of High-Order Harmonics Emitted from Rare Gases at Low Density," Phys. Rev. A **51** (2), R906–R909 (1995).

885. U. Alon, J. Hecht, D. Ofer, and D. Shvarts, "Power Laws and Similarity of Rayleigh-Taylor and Richtmyer-Meshkov Mixing Fronts at All Density Ratios," Phys. Rev. Lett. **74** (4), 534–537 (1995).

884. B. Yaakobi, D. Shvarts, F. J. Marshall, R. Epstein, and Q. Su, "Target Imaging and Backlighting Diagnosis," Rev. Sci. Instrum. **66** (1), 731–733 (1995).

883. W. Kula and R. Sobolewski, "Effect of Hydrogen Doping on Electrical Properties of Y-Ba-Cu-O Thin Films," Physica C **235–240**, 587–588 (1994).

882. W. Göb, W. Lang, W. Kula, and R. Sobolewski, "Transport Properties and Superconducting Fluctuations in Oxygen-Deficient $YBa_2Cu_3O_{7-\delta}$ Thin Films," Physica C **235–240**, 1535–1536 (1994).

881. X. D. Cao and D. D. Meyerhofer, "Frequency-Domain Interferometer for Measurement of the Polarization Mode Dispersion in Single-Mode Optical Fibers," Opt. Lett. **19** (22), 1837–1839 (1994).

880. X. D. Cao, D. D. Meyerhofer, and G. P. Agrawal, "Optimization of Optical Beam Steering in Nonlinear Kerr Media by Spatial Phase Modulation," J. Opt. Soc. Am. B **11** (11), 2224–2231 (1994).

879. S. Augst and D. D. Meyerhofer, "Field Ionization of Noble Gas Atoms with a Keldysh Adiabaticity Parameter of the Order of One," Laser Phys. **4** (6), 1155–1159 (1994).

878. K. Mizuno, R. Bahr, B. S. Bauer, R. S. Craxton, J. S. DeGroot, R. P. Drake, W. Seka, and B. Sleaford, "Direct Measurements of the Ion Acoustic Decay Instability in a Laser-Produced, Large-Scale, Hot Plasma," Phys. Rev. Lett. **73** (20), 2704–2707 (1994).

877. B. Yaakobi, R. Epstein, F. J. Marshall, D. K. Bradley, P. A. Jaanimagi, and Q. Su, "New Diagnostic Features in the Laser Implosion of Argon-Filled Targets," Rev. Sci. Instrum. **66** (1), 728–730 (1995).

876. S. D. Jacobs, K. L. Marshall, and A. Schmid, "Liquid Crystals," in *CRC Handbook of Laser Science and Technology*, Supplement 2: Optical Materials, edited by M. J. Weber (CRC Press, Boca Raton, FL, 1995), Sec. 14, pp. 509–577.

875. W. R. Donaldson and L. Mu, "Effect of Illumination Uniformity on GaAs Photoconductive Switches," IEEE J. Quantum Electron. **30** (12), 2866–2874 (1994).

874. M. D. Skeldon, A. Okishev, S. A. Letzring, W. R. Donaldson, K. Green, W. Seka, and L. Fuller, "Optically Activated Switches for the Generation of Complex Electrical Waveforms with Multigigahertz Bandwidth," Proc. SPIE **2343**, 94–98 (1994).

873. L. Mu, W. R. Donaldson, J. C. Adams, and R. A. Falk, "Electromagnetic Wave Interaction with Laser-Induced Plasmas in GaAs," Proc. SPIE **2343**, 107–112 (1994).

872. D. Gupta, W. R. Donaldson, and A. M. Kadin, "Energy Extraction from Superconducting Magnets Using Optically Activated $YBa_2Cu_3O_{7-x}$ Switches," Proc. SPIE **2343**, 128–134 (1994).

871. Y. Lin, T. J. Kessler, and G. N. Lawrence, "Raman Scattering in Air: Four-Dimensional Analysis," Appl. Opt. **33**, 4781–4791 (1994).

870. X. D. Cao and D. D. Meyerhofer, "All-Optical Switching by Means of Collisions of Spatial Vector Solitons," Opt. Lett. **19** (21), 1711–1713 (1994).

869. R. Betti, V. Goncharov, R. L. McCrory, E. Turano, and C. P. Verdon, "Multiple Cutoff Wave Numbers of the Ablative Rayleigh-Taylor Instability," Phys. Rev. E **50** (5), 3968–3972 (1994).

868. B. Yaakobi, R. Epstein, F. J. Marshall, D. K. Bradley, P. A. Jaanimagi, and Q. Su, "New Diagnostic Features in the Laser Implosion of Argon-Filled Targets," Opt. Commun. **111**, 556–565 (1994).

867. M. J. Cumbo and S. D. Jacobs, "Determination of Near-Surface Forces in Optical Polishing Using Atomic Force Microscopy," Nanotechnology **5**, 70–79 (1994).

866. H. Shi and S.-H. Chen, "Novel Glassy Nematic and Chiral Nematic Oligomers Derived from 1,3,5-Cyclohexanetricarboxylic and (1*R*,3*S*)-(+)-Camphoric Acids," Liq. Cryst. **17** (3), 413–428 (1994).

865. J. W. Herman and H. E. Elsayed-Ali, "Time-Resolved Structural Studies of the Low-Index Faces of Lead," Phys. Rev. B **49** (7), 4886–4897 (1994).

864. C.-C. Wang, M. Currie, S. Alexandrou, and T. Y. Hsiang, "Ultrafast, All-Silicon Light Modulator," Opt. Lett. **19**, 1453–1455 (1994).

863. J. F. Young, T. Gong, P. J. Kelly, and P. M. Fauchet, "Carrier-Carrier Scattering within Athermal Distributions," Semicond. Sci. Technol. **9**, 465–467 (1994).

862. C. J. McKinstrie, R. Betti, R. E. Giacone, T. Kolber, and J. S. Li, "Two-Dimensional Stimulated Brillouin Scattering," Phys. Rev. E **50**, 2182–2185 (1994).

861. D. Gupta, W. R. Donaldson, and A. M. Kadin, "A Laser-Triggered, Inductive Opening Switch Using High-Temperature Superconducting Thin Films," in *Advances in Cryogenic Engineering*, edited by P. Kittel (Plenum Press, New York, 1994), Vol. 39, Part B, pp. 2015–2020.

860. S. Papernov and A. W. Schmid, "Atomic Force Microscopy Observation of Water-Induced Morphological Changes in Y_2O_3 Monolayer Coatings," Proc. SPIE **2114**, 387–393 (1994).

859. C. J. Twomey, S.-H. Chen, T. Blanton, A. W. Schmid, and K. L. Marshall, "Solid Polymers Doped with Rare Earth Metal Salts. II. Thermal Behavior and Morphology of

the Neodymium Acetate–Poly(Ethylene Oxide) System," J. Polym. Sci. B, Polym. Phys. Ed. **31**, 647–654 (1993).

858. R. Sobolewski, L. Shi, T. Gong, W. Xiong, X. Weng, Y. Kostoulas, and P. M. Fauchet, "Femtosecond Optical Response of Y-Ba-Cu-O Thin Films and Their Applications in Optoelectronics," Proc. SPIE **2159**, 110–120 (1994).

857. E. M. Epperlein and R. W. Short, "Generalized Electron Fluid Equations in the Presence of Laser Irradiation," Phys. Plasmas **1** (9), 3003–3007 (1994).

856. E. M. Epperlein and R. W. Short, "Nonlocal Electron Transport in the Presence of High-Intensity Laser Irradiation," Phys. Rev. E **50**, 1697–1699 (1994).

855. P. W. McKenty, S. Skupsky, J. H. Kelly, and C. T. Cotton, "Numerical Investigation of the Self-Focusing of Broad-Bandwidth Laser Light with Applied Angular Dispersion," J. Appl. Phys. **76** (4), 2027–2035 (1994).

854. S. Papernov and A. W. Schmid, "Atomic Force Microscopy Studies of Laser-Triggered Morphology Changes in Y_2O_3 Monolayer Coatings," Proc. SPIE **2114**, 381–386 (1994).

853. W. Xiong, W. Kula, R. Sobolewski, and J. R. Gavaler, "Laser Writing: A New Technique for Fabrication of Electronic and Optoelectronic Y-Ba-Cu-O Devices and Circuits," Proc. SPIE **2160**, 16–24 (1994).

852. W. Xiong, W. Kula, and R. Sobolewski, "Fabrication of High-T_c Superconducting Electronic Devices Using the Laser-Writing Technique," in *Advances in Cryogenic Engineering*, edited by R. P. Reed, F. R. Fickett, L. T. Summers, and M. Stieg (Plenum Press, New York, 1994), Vol. 40, Part A, pp. 385–391.

851. D. Gupta, "A New Optically Triggered Superconducting Opening Switch for High-Power Applications," in *Research Reports of the Link Energy Fellows*, edited by B. J. Thompson (The University of Rochester Press, Rochester, NY, 1994), Vol. 9, pp. 25–41.

850. J. K. Samarabandu, R. Acharya, C. D. Edirisinghe, P. C. Cheng, H. Kim, T. H. Lin, R. G. Summers, and C. E. Musial, "Analysis of Multi-Dimensional Confocal Images," Proc. SPIE **1450**, 296–322 (1991).

849. A. I. Lobad, P. J. Rodney, B. C. Tousley, S. M. Mehta, and P. M. Fauchet, "The Starting Mechanism in Coupled-Cavity, Mode-Locked Laser Systems," Proc. SPIE **2116**, 109–117 (1994).

848. Y. Kostoulas, P. M. Fauchet, T. Gong, B. C. Tousley, G. W. Wicks, and P. Cooke, "Femtosecond Carrier Dynamics in Low-Temperature-Grown III-V Semiconductors," Proc. SPIE **2142**, 100–109 (1994).

847. T. Gong, J. F. Young, G. W. Wicks, P. J. Kelly, and P. M. Fauchet, "Hot Carrier Dynamics Near the Fermi Edge of N-Doped GaAs," Semicond. Sci. Technol. **9**, 459–461 (1994).

846. Y. Kostoulas, T. Gong, and P. M. Fauchet, "Investigation of Carrier-Carrier Scattering by Three-Pulse Pump-Probe Spectroscopy," Semicond. Sci. Technol. **9**, 462–464 (1994).

845. A. I. Lobad, P. J. Rodney, S. M. Mehta, B. C. Tousley, and P. M. Fauchet, "The Starting Mechanism in Coupled-Cavity Modelocked Laser Systems," IEEE J. Quantum Electron. **30** (3), 812–817 (1994).

844. J. Peatross, J. L. Chaloupka, and D. D. Meyerhofer, "High-Order Harmonic Generation with an Annular Laser Beam," Opt. Lett. **19** (13), 942–944 (1994).

843. W. Kula and R. Sobolewski, "Electric-Field-Effect Devices Based on Partially Oxygen-Depleted, Superconducting Y-Ba-Cu-O Thin Films," in *Advances in Cryogenic Engineering*, edited by R. P. Reed, F. R. Fickett, L. T. Summers, and M. Stieg (Plenum Press, New York, 1994), Vol. 40, Part A, pp. 377–383.

842. T. Gong and P. M. Fauchet, "Carrier-Carrier Interactions in GaAs Investigated by Femtosecond Spectroscopy," Proc. SPIE **1861**, 227–236 (1993) (invited).

841. J. Delettrez, D. K. Bradley, and C. P. Verdon, "The Role of the Rayleigh-Taylor Instability in Laser-Driven Burnthrough Experiments," Phys. Plasmas **1** (7), 2342–2349 (1994).

840. L. Mu and W. R. Donaldson, "Simulating Photoconductive Switches in a Microwave Transmission Line," in the *Proceedings of the Ninth IEEE International Pulsed Power Conference*, edited by K. Prestwich and W. Baker (IEEE, New York, 1993), pp. 629–632.

839. D. Gupta, W. R. Donaldson, and A. M. Kadin, "Fast Inductively Coupled Superconducting Opening Switch Triggered by Short Laser Pulses," in the *Proceedings of the Ninth IEEE International Pulsed Power Conference*, edited by K. Prestwich and W. Baker (IEEE, New York, 1993), pp. 131–133.

838. W. N. Maung, D. P. Butler, W. Xiong, W. Kula, and R. Sobolewski, "Propagation Characteristics of Monolithic Y-Ba-Cu-O Coplanar Strip Transmission Lines Fabricated by Laser-Writing Patterning Technique," IEEE Microw. Guid. Wave Lett. **4** (5), 132–134 (1994).

837. P. Gierlowski, G. Jung, W. Kula, S. J. Lewandowski, B. Savo, R. Sobolewski, A. Tebano, and A. Vecchione, "Low Frequency Voltage Noise in Current Biased HTSC Thin Films," Physica B **194–196**, 2043–2044 (1994).

836. W. Lang, W. Kula, and R. Sobolewski, "Superconducting Fluctuations: Paraconductivity, Excess Hall Effect, and Magnetoconductivity in 2223-BiSrCaCuO Thin Films," Physica B **194–196**, 1643–1644 (1994).

835. R. Sobolewski, W. Xiong, W. Kula, and B. McIntyre, "Electrical and Structural Properties of the YBCO Superconducting-Semiconducting Interface," Physica B **194–196**, 2143–2144 (1994).

834. E. M. Korenic, S. D. Jacobs, J. K. Houghton, F. Kreuzer, and A. Schmid, "Nematic Polymer Liquid-Crystal Wave Plate for High-Power Lasers at 1054 nm," Appl. Opt. **33** (10), 1889–1899 (1994).

833. S. Alexandrou, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, "Generation of Subpicosecond Electrical Pulses by Nonuniform Illumination of GaAs Transmission-Line Gaps," IEEE J. Quantum Electron. **30** (5), 1332–1338 (1994).

832. C.-C. Wang, S. Alexandrou, D. Jacobs-Perkins, and T. Y. Hsiang, "Comparison of the Picosecond Characteristics of Silicon and Silicon-on-Sapphire Metal-Semiconductor-Metal Photodiodes," Appl. Phys. Lett. **64** (26), 3578–3580 (1994).

831. C. J. Twomey, S.-H. Chen, T. N. Blanton, A. Schmid, and K. L. Marshall, "Poly[(Methylene Oxide)Oligo(Ethylene Oxide)] Vs. Poly(Ethylene Oxide) as Hosts for Neodymium Compounds," J. Polym. Sci. B, Polym. Phys. **32**, 1687–1695 (1994).

830. P. M. Fauchet, D. Hulin, A. Mourchid, and R. Vanderhaghen, "Ultrafast Thermal Nonlinearities in Amorphous Silicon," Proc. SPIE **1677**, 174–183 (1992).

829. E. M. Epperlein, "Implicit and Conservative Difference Scheme for the Fokker-Planck Equation," J. Comput. Phys. **112** (2), 291–297 (1994).

828. X. D. Cao and D. D. Meyerhofer, "Nonlinear Birefringence of Optical Fibers," Opt. Commun. **109**, 151–154 (1994).

827. E. M. Epperlein, "Fokker-Planck Modeling of Electron Transport in Laser-Produced Plasmas," Laser Part. Beams **12** (2), 257–272 (1994).

826. F. J. Marshall, J. A. Delettrez, R. Epstein, and B. Yaakobi, "Diagnosis of Laser-Target Implosions by Space-Resolved Continuum Absorption X-Ray Spectroscopy," Phys. Rev. E **49** (5), 4381–4390 (1994).

825. C. J. Twomey, S.-H. Chen, T. N. Blanton, A. Schmid, and K. L. Marshall, "Stoichiometry and Morphology in Terbium Nitrate-Poly(Ethylene Oxide) Macromolecular Complex," J. Polym. Sci. B, Polym. Phys. **32**, 1573–1577 (1994).

824. R. Sobolewski, W. Xiong, W. Kula, W. N. Maung, and D. P. Butler, "Monolithic Y-Ba-Cu-O Structures Fabricated Using the Laser-Writing Patterning Technique," Supercond. Sci. Technol. **7**, 300–303 (1994).

823. S. Alexandrou, C.-C. Wang, M. Currie, R. Sobolewski, and T. Y. Hsiang, "Loss and Dispersion at Subterahertz Frequencies in Coplanar Waveguides with Varying Ground-Plane Widths," Proc. SPIE **2149**, 108–118 (1994).

822. C.-C. Wang, S. Alexandrou, D. Jacobs-Perkins, and T. Y. Hsiang, "Picosecond Characteristics of Silicon-on-Insulator, Metal-Semiconductor-Metal Photodiodes," Proc. SPIE **2149**, 271–275 (1994).

821. W. Kula and R. Sobolewski, "Electric-Field Effect in Partially Deoxygenated YBCO Thin Films," Physica B **194–196**, 2083–2084 (1994).

820. W. R. Donaldson, D. Gupta, and A. M. Kadin, "Progress Toward High-Temperature Superconducting Opening Switches," in the *Proceedings of the Sixth BMDO/ONR Pulse Power Meeting 1993* (Office of Naval Research, Arlington, VA, 1993), pp. 25–30.

819. E. M. Epperlein and R. W. Short, "Comments on 'Theory and Three-Dimensional Simulation of Light Filamentation in Laser-Produced Plasmas' [Phys. Fluids B 5, 2243 (1993)]," Phys. Plasmas **1** (5), 1364–1365 (1994).

818. X. D. Cao, G. P. Agrawal, and C. J. McKinstrie, "Self-Focusing of Chirped Optical Pulses in Nonlinear Dispersive Media," Phys. Rev. A **49** (5), 4085–4092 (1994).

817. O. L. Landen, P. M. Bell, J. A. Oertel, J. J. Satariano, and D. K. Bradley, "Gain Uniformity, Linearity, Saturation and Depletion in Gated Microchannel-Plate X-Ray Framing Cameras," Proc. SPIE **2002**, 2–13 (1993).

816. W. Kula and R. Sobolewski, "Charging Effect in Partially Oxygen-Depleted, Superconducting Y-Ba-Cu-O Thin Films," Phys. Rev. B **49** (9), 6428–6431 (1994).

815. W. N. Maung, D. P. Butler, X. Xiong, W. Kula, and R. Sobolewski, "Microwave Properties of Monolithic Y-Ba-Cu-O Transmission Line Devices Fabricated by the Laser-Writing Patterning Technique," Proc. SPIE **2156**, 174–180 (1994).

814. R. Sobolewski, W. Xiong, W. Kula, and J. R. Gavaler, "Laser Patterning of Y-Ba-Cu-O Thin-Film Devices and Circuits," Appl. Phys. Lett. **64** (5), 643–645 (1994).

813. L. Shi, T. Gong, X. Weng, Y. Kostoulas, R. Sobolewski, and P. M. Fauchet, "Femtosecond Reflectivity of 60 K Y-Ba-Cu-O Thin Films," Appl. Phys. Lett. **64** (9), 1150–1152 (1994).

812. S. Skupsky and T. J. Kessler, "Speckle-Free Phase Plate (Diffuser) for Far-Field Applications," J. Appl. Phys. **74** (7), 4310–4316 (1993).

811. J. M. Soures, "The OMEGA Upgrade Laser Facility for Direct-Drive Experiments," J. Fusion Energy **10** (4), 295–298 (1991).

810. E. M. Epperlein, R. W. Short, and A. Simon, "Transport and Sound Waves in Plasmas with Light and Heavy Ions," Phys. Rev. E **49** (3), 2480–2483 (1994).

809. X. D. Cao and D. D. Meyerhofer, "Soliton Collisions in Optical Birefringent Fibers," J. Opt. Soc. Am. B **11** (2), 380–385 (1994).

808. J. M. Soures, "Solid State Lasers for ICF," in *Nuclear Fusion by Inertial Confinement: A Comprehensive Treatise,* edited by G. Velarde, Y. Ronen, and J. M. Martinez-Val (CRC Press, Boca Raton, FL, 1993), Chap. 14, pp. 351–370.

807. H. Kim and M. Wittman, "Interferometric Microscopy—An Overview of the Optical Characterization of Inertial-Fusion Targets," in *Multidimensional Microscopy,* edited by P. C. Cheng, T. H. Lin, W. L. Wu, and J. L. Wu (Springer-Verlag, New York, 1994), Sec. 6, pp. 103–121.

806. D. D. Meyerhofer and J. Peatross, "Angular Distributions of High-Order Harmonics," in *Super-Intense Laser-Atom Physics*, edited by B. Piraux, A. L'Huillier, and K. Rzazewski, NATO ASI Series B, Physics, Vol. 316 (Plenum Press, New York, 1993), pp. 19–29.

805. M. Kohin, S. J. Wein, J. D. Traylor, R. C. Chase, and J. E. Chapman, "Analysis and Design of Transparent Conductive Coatings and Filters," Opt. Eng. **32** (5), 911–925 (1993).

804. J. Peatross and D. D. Meyerhofer, "Measurement of the Angular Distribution of High-Order Harmonics Emitted from Rare Gases," in *OSA Proceedings on Shortwavelength V: Physics with Intense Laser Pulses,* edited by P. B. Corkum and M. D. Perry (Optical Society of America, Washington, DC, 1993), Vol. 17, pp. 122–126.

803. B. Soom, H. Chen, Y. Fisher, and D. D. Meyerhofer, "Strong Kα Emission in Picosecond Laser-Plasma Interactions," in *OSA Proceedings on Shortwavelength V: Physics with Intense Laser Pulses*, edited by P. B. Corkum and M. D. Perry (Optical Society of America, Washington, DC, 1993), Vol. 17, pp. 192–195.

802. J. Sweetser, T. J. Dunn, I. A. Walmsley, C. Radzewicz, S. Palese, and R. J. D. Miller, "Characterization of an FM Mode-Locked Nd:YLF Laser Synchronized with a Passively Mode-Locked Dye Laser," Opt. Commun. **97** (5,6), 379–387 (1993).

801. H. E. Elsayed-Ali, J. W. Herman, and E. A. Murphy, "Ultrafast Laser Superheating of Metal Surfaces," in *Beam-Solid Interactions: Fundamentals and Applications*, edited by M. Nastasi, L. R. Harriott, N. Herbots, and R. S. Averback (Materials Research Society, Pittsburgh, PA, 1993), Vol. 279, pp. 685–690.

800. J. M. Soures, "High-Technology Advances from LLE Research," Rochester Business Profiles Journal, August 1991, 40–41.

799. J. Samarabandu, R. Acharya, and P.-C. Cheng, "Aspects of Confocal Image Analysis," Proc. SPIE **1660**, 791–797 (1993).

798. H. E. Elsayed-Ali and T. Juhasz, "Femtosecond Time-Resolved Thermomodulation of Thin Gold Films with Different Crystal Structures," Phys. Rev. B **47** (20), 13,599–13,610 (1993).

797. R. L. McCrory, J. M. Soures, C. P. Verdon, T. R. Boehly, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, R. J. Hutchison, P. A. Jaanimagi, S. D. Jacobs, J. H. Kelly, R. L. Keck, 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, W. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, and B. Yaakobi, "Direct-Drive Laser Fusion Target Physics Experiments," in *Plasma Physics and Controlled Nuclear Fusion Research 1992* (IAEA, Vienna, 1993), Vol. 3, pp. 31–38.

796. A. Denysenko, S. Alexandrou, C.-C. Wang, D. K. Bradley, W. R. Donaldson, T. Y. Hsiang, R. Sobolewski, and P. M. Bell, "Picosecond Electrical Characterization of X-Ray Microchannel-Plate Detectors Used in Diagnosing Inertial Confinement Fusion Experiments," Rev. Sci. Instrum. **64** (11), 3285–3288 (1993).

795. S. D. Jacobs, "Progress at the Center for Optics Manufacturing," Proc. SPIE **1720**, 169–174 (1992).

794. C. J. Twomey, S.-H. Chen, T. N. Blanton, A. W. Schmid, and K. L. Marshall, "Solid Polymers Doped with Rare Earth Metal Compounds. III. Formation and Stability of Macromolecular Complexes Comprising Neodymium Nitrate and Dipivaloylmethane in Poly(Ethylene Oxide)," J. Polym. Sci. B, Polym. Phys. **32**, 551–560 (1994).

793. R. L. McCrory, "Direct-Drive Implosion Experiments for Laser Fusion on OMEGA and the OMEGA Upgrade," in *Proceedings of the 21st ECLIM*, edited by H. Fiedorowicz, J. Wolowski, M. Mroczkowski, M. Szczurek, and A. Ulinowicz (ECLIM, Warsaw, Poland, 1992), pp. 197–200.

792. W. I. Kordonsky, I. V. Prokhorov, G. Gorodkin, S. D. Jacobs, B. Puchebner, and D. Pietrowski, "Magnetorheological Finishing," Opt. Photonics News, December 1993.

791. E. M. Epperlein, "Effect of Electron Collisions on Ion-Acoustic Waves and Heat Flow," Phys. Plasmas **1** (1), 109–115 (1994).

790. R. S. Craxton, F. S. Turner, R. Hoefen, C. Darrow, E. F. Gabl, and Gar. E. Busch, "Characterization of Laser-Produced Plasma Density Profiles Using Grid Image Refractometry," Phys. Fluids B **5** (12), 4419–4431 (1993).

789. T. Gong, Y. Kostoulas, L. X. Zheng, W. Xiong, W. Kula, R. Sobolewski, and P. M. Fauchet, "Femtosecond Optical Nonlinearities in $YBa_2Cu_30_{7-x}$," Proc. SPIE **1861**, 355–362 (1993).

788. M. Kauranen, A. L. Gaeta, and C. J. McKinstrie, "Transverse Instabilities of Two Intersecting Laser Beams in a Nonlinear Kerr Medium," J. Opt. Soc. Am B **10** (12), 2298–2305 (1993).

787. L. E. Kingsley and W. R. Donaldson, "Numerical Analysis of Electric Field Profiles in High-Voltage GaAs Photoconductive Switches and Comparison to Experiment," IEEE Trans. Electron Devices **40** (12), 2344–2351 (1993).

786. R. Betti, R. L. McCrory, and C. P. Verdon, "Stability Analysis of Unsteady Ablation Fronts," Phys. Rev. Lett. **71** (19), 3131–3134 (1993).

785. E. A. Murphy, H. E. Elsayed-Ali, K. T. Park, and Y. Gao, "Temperature-Dependent X-Ray Photoelectron Diffraction of Pb(100): Experimental Results and the Single-Scattering Cluster Model," J. Vac. Sci. Technol. A **11** (6), 3106–3110 (1993).

784. T. Gong, K. B. Ucer, L. X. Zheng, G. W. Wicks, J. F. Young, P. J. Kelly, and P. M. Fauchet, "Femtosecond Carrier-Carrier Interactions in GaAs," in *Ultrafast Phenomena VIII*, edited by J.-L. Martin, A. Migus, G. A. Mourou, and A. H. Zewail, Springer Series in Chemical Physics (Springer-Verlag, Berlin, 1993), Vol. 55, pp. 402–404.

783. J. Peatross and D. D. Meyerhofer, "Novel Gas Target for Use in Laser Harmonic Generation," Rev. Sci. Instrum. **64** (11), 3066–3071 (1993).

782. D. Gupta, W. R. Donaldson, and A. M. Kadin, "High-Temperature Superconducting Opening Switches," in the *Proceedings of the Fifth SDIO/ONR Pulse Power Meeting 1992* (Office of Naval Research, Arlington, VA, 1993), pp. 75–82.

781. D. Gupta, W. R. Donaldson, and A. M. Kadin, "Fast Optically Triggered Superconducting Opening Switches," Proc. SPIE **1873**, 139–143 (1993).

780. M. Skeldon and S. T. Bui, "Temporal Pulse-Width Control of a Regenerative Amplifier with Intracavity Etalons," Proc. SPIE **1869**, 120–127 (1993).

779. W. Xiong, W. Kula, R. Sobolewski, and J. R. Gavaler, "Superconducting Properties of Laser-Annealed Lines Fabricated in Oxygen Deficient Y-Ba-Cu-O Thin Films," in *AIP Conference Proceedings 273: Sixth Annual Conference on Superconductivity and Its Applications*, edited by H. S. Kwok, D. T. Shaw, and M. J. Naughton (American Institute of Physics, New York, 1993), pp. 432–436.

778. B. Soom, H. Chen, Y. Fisher, and D. D. Meyerhofer, "Strong K$\overline{\square}$Emission in Picosecond Laser-Plasma Interactions," J. Appl. Phys. **74**, 5372–5377 (1993).

777. T. Gong, L. X. Zheng, W. Xiong, W. Kula, R. Sobolewski, P. M. Fauchet, J. P. Zheng, H. S. Kwok, and J. R. Gavaler, "Femtosecond Spectroscopy of Y-Ba-Cu-O Thin Films," in *AIP Conference Proceedings 273: Sixth Annual Conference on Superconductivity and Its Applications*, edited by H. S. Kwok, D. T. Shaw, and M. J. Naughton (American Institute of Physics, New York, 1993), pp. 327–335.

776. P. M. Fauchet and T. Gong, "Femtosecond Dynamics of Hot-Carriers in GaAs," Proc. SPIE **1677**, 25–34 (1992) (invited).

775. W. Kula and R. Sobolewski, "Influence of the Crystalline Structure of Critical Current Density in Bi(Pb)-Sr-Ca-Cu-O Thin Films Superconducting Above 100 K," in *AIP Conference Proceedings 273: Sixth Annual Conference on Superconductivity and Its Applications*, edited by H. S. Kwok, D. T. Shaw, and M. J. Naughton (American Institute of Physics, New York, 1993), pp. 226–230.

774. J. C. Mastrangelo and S.-H. Chen, "New Thermotropic Chiral Nematic Polymers. 3. Copolymers Containing Cyanobiphenyl Group and (*S*)-(–)-1-Phenylethanol or (*S*)-(–)-1-Phenylethylamine," Macromolecules **26**, 6132–6134 (1993).

773. H. Shi and S.-H. Chen, "New Thermotropic Liquid Crystal Polymers Containing High Birefringence Cyanotolan Moiety," Macromolecules **26**, 5840–5843 (1993).

772. B. S. W. Kuo and A. W. Schmid, "Effects of Thin-Film Thermal Conductivity on the Optical Damage Threshold of *a*-Si Film on *c*-Si Substrate at 1064 nm," J. Appl. Phys. **74**, 5159–5163 (1993).

771. C. J. McKinstrie, X. D. Cao, and J. S. Li, "Nonlinear Detuning of Four-Wave Interactions," J. Opt. Soc. Am. B **10**, 1856–1869 (1993).

770. D. Ress, P. M. Bell, and D. K. Bradley, "A Time-Resolved X-Ray Ring Coded-Aperture Microscope for Inertial Confinement Fusion Applications," Rev. Sci. Instrum. **64**, 1404–1406 (1993).

769. T. Gong, L. X. Zheng, Y. Kostoulas, W. Xiong, W. Kula, K. B. Ucer, R. Sobolewski, and P. M. Fauchet, "Ultrafast Optical and Optoelectronic Response of Y-Ba-Cu-O," in *OSA Proceedings on Ultrafast Electronics and Optoelectronics,* edited by J. Shah and U. Mishra (Optical Society of America, Washington, DC, 1993), Vol. 14, pp. 234–237.

768. M. Y. Liu, S. Y. Chou, S. Alexandrou, and T. Y. Hsiang, "Ultrafast Metal-Semiconductor-Metal Photodetectors with Nanometer Scale Finger Spacing and Width," in *OSA Proceedings on Ultrafast Electronics and Optoelectronics,* edited by J. Shah and U. Mishra (Optical Society of America, Washington, DC, 1993), Vol. 14, pp. 53–55.

767. S. Alexandrou, C.-C. Wang, R. Sobolewski, and T. Y. Hsiang, "Subpicosecond Electrical Pulse Generation in GaAs by Nonuniform Illumination of Series and Parallel Transmission-Line Gaps," in *OSA Proceedings on Ultrafast Electronics and Optoelectronics,* edited by J. Shah and U. Mishra (Optical Society of America, Washington, DC, 1993), Vol. 14, pp. 209–212.

766. Y.-H. Chuang, T. J. Kessler, and S. Skupsky, "Laser-Beam Pulse Shaping Using Dispersive Spectral Filtering," Proc. SPIE **1870**, 34–46 (1993).

765. S. Skupsky, and T. J. Kessler, "Strategies for Ultra-High Laser Uniformity Using Zero-Correlation Phase Masks," Proc. SPIE **1870**, 112–119 (1993).

764. T. J. Kessler, Y. Lin, J. J. Armstrong, and B. Velazquez, "Phase Conversion of Lasers with Low-Loss Distributed Phase Plates," Proc. SPIE **1870**, 95–104 (1993).

763. J. J. Armstrong and T. J. Kessler, "Large-Aperture High-Efficiency Holographic Gratings for High-Power Laser Systems," Proc. SPIE **1870**, 47–52 (1993).

762. S. Alexandrou, C.-C. Wang, T. Y. Hsiang, M. Y. Liu, and S. Y. Chou, "A 75 GHz Silicon Metal-Semiconductor-Metal Schottky Photodiode," Appl. Phys. Lett. **62**, 2507–2509 (1993).

761. Y. Lin, T. J. Kessler, J. J. Armstrong, and G. N. Lawrence "Laser System Power Balance Effects from Stimulated Rotational Raman Scattering in Air," Proc. SPIE **1870**, 14–25 (1993).

760. M. Yu, C. J. McKinstrie, and G. P. Agrawal, "Instability Due to Cross-Phase Modulation in the Normal-Dispersion Regime," Phys. Rev. E **48**, 2178–2186 (1993).

759. A. V. Chirokikh, S. M. Kozochkin, A. P. Streltsov, B. D. Ochirov, and A. M. Rubenchik, "Nonstationary Stimulated Brillouin Scattering in a Laser Plasma," Phys. Rev. Lett. **5**, 723–726 (1993).

758. J. W. Herman, H. E. Elsayed-Ali, and E. A. Murphy, "Time-Resolved Structural Study of Pb(100)," Phys. Rev. Lett. **71**, 400–403 (1993).

757. R. L. McCrory, J. M. Soures, J. P. Knauer, S. A. Letzring, F. J. Marshall, S. Skupsky, W. Seka, C. P. Verdon, D. K. Bradley, R. S. Craxton, J. A. Delettrez, R. Epstein, P. Jaanimagi, R. Keck, T. Kessler, H. Kim, R. L. Kremens, P. W. McKenty, R. W. Short, and B. Yaakobi, "Short-Wavelength-Laser Requirements for Direct-Drive Ignition and Gain," Laser Part. Beams **11**, 299–306 (1993).

756. J. M. Soures, R. L. McCrory, T. R. Boehly, R. S. Craxton, S. D. Jacobs, J. H. Kelly, T. J. Kessler, J. P. Knauer, R. L. Kremens, S. A. Kumpan, S. A. Letzring, W. D. Seka, R. W. Short, M. D. Skeldon, S. Skupsky, and C. P. Verdon, "OMEGA Upgrade Laser for Direct-Drive Target Experiments," Laser Part. Beams **11**, 317–321 (1993).

755. E. A. Murphy, H. E. Elsayed-Ali, and J. W. Herman, "Superheating of Bi(0001)," Phys. Rev. B **48**, 4921–4924 (1993).

754. R. Betti, "Plasma Oscillations Induced by Tangentially Injected Neutral Beams," Plasma Phys. Control. Fusion **35**, 941–956 (1993).

753. P. M. Bell, J. D. Kilkenny, O. Landen, D. B. Ress, J. D. Wiedwald, D. K. Bradley, J. Oertel, and R. Watt, "High Speed X-Ray Gating Cameras for ICF Imaging Applications," Proc. SPIE **1801**, 1140–1159 (1992).

752. J. Glanz, M. V. Goldman, D. L. Newman, and C. J. McKinstrie, "Electromagnetic Instability and Emission from Counterpropagating Langmuir Waves," Phys. Fluids B **5**, 1101–1114 (1993).

751. G. M. Shimkaveg, M. R. Carter, B. K. F. Young, R. S. Walling, A. L. Osterheld, J. E. Trebes, R. A. London, R. P. Ratowsky, R. E. Stewart, and R. S. Craxton, "X-Ray Laser 'Oscillator-Amplifier' Experiments," in the *Proceedings of the International Conference on Lasers '92*, edited by C. P. Wang (STS Press, McLean, VA, 1993), pp. 97–104.

750. S. D. Jacobs, D. Golini, A. Lindquist, B. Puchebner, M. J. Cumbo, A. Feltz, W. Czajkowski, J. Greivenkamp, D. T. Moore, and H. M. Pollicove, "Technical Advances in Process Science Research at the Center for Optics Manufacturing," in *International Progress in Precision Engineering*, edited by N. Ikawa, S. Shimada, T. Moriwaki, P. A. McKeown, and R. C. Spragg (Butterworth & Heinemann, 1993), pp. 1046–1050.

749. C. Bamber, W. R. Donaldson, E. Lincke, and A. C. Melissinos, "A Pulsed-Power Electron Accelerator Using Laser-Driven Photoconductive Switches," in *Advanced Accelerator Concepts*, AIP Conference Proceedings 279, edited by J. S. Wurtele (American Institute of Physics, New York, 1992), pp. 802–806.

748. W. R. Donaldson and A. C. Melissinos, "A Novel High Brilliance Electron Source," in *Advanced Accelerator Concepts*, AIP Conference Proceedings 279, edited by J. S. Wurtele (American Institute of Physics, New York, 1992), pp. 791–795.

747. L. J. Shaw-Klein, S. J. Burns, and S. D. Jacobs, "Model for Laser Damage Dependence on Thin-Film Morphology," Appl. Opt. **32**, 3925–3929 (1993).

746. X. D. Cao and C. J. McKinstrie, "Solitary-Wave Stability in Birefringent Optical Fibers," J. Opt. Soc. Am. B **10**, 1202–1207 (1993).

745. D. D. Meyerhofer, H. Chen, J. A. Delettrez, B. Soom, S. Uchida, and B. Yaakobi, "Resonance Absorption in High-Intensity Contrast, Picosecond Laser-Plasma Interactions," Phys. Fluids B **5**, 2584–2588 (1993).

744. R. Betti and J. P. Freidberg, "Destabilization of the Internal Kink by Energetic-Circulating Ions," Phys. Rev. Lett. **70**, 3428–3430 (1993).

743. H. Chen, B. Soom, B. Yaakobi, S. Uchida, and D. D. Meyerhofer, "Hot-Electron Characterization from K_α Measurements in High-Contrast, *p*-Polarized, Picosecond Laser-Plasma Interactions," Phys. Rev. Lett. **70**, 3431–3434 (1993).

742. W. E. Smith, T.-H. Bui, A. Lindquist, and S. D. Jacobs, "Non-Destructive Estimation of Subsurface Glass Damage Using Fluorescent Confocal Microscopy," in *Optical Fabrication & Testing Workshop Topical Meeting* (Optical Society of America, Washington, DC, 1992), Vol. 24, pp. 148–150.

741. J. C. Lambropoulos, "Thermal Conductivity of Thin Films and Polycrystals," in *Intergranular and Interphase Boundaries in Materials*, Materials Science Forum, Vol. 126–128, edited by P. Komninou and A. Rocher (Trans Tech Publications, Aedermannsdorf, Switzerland, 1993), pp. 587–590.

740. J. C. Lambropoulos, S. D. Jacobs, S. J. Burns, and L. Shaw-Klein, "Effects of Anisotropy, Interfacial Thermal Resistance, Microstructure, and Film Thickness on the Thermal Conductivity of Dielectric Thin Films," in *Fundamental Issues in Small Scale Heat Transfer*, edited by Y. Bayazitoglu and G. P. Peterson (ASME, New York, 1992), Vol. 227, pp. 37–49.

739. M. J. Cumbo, A. Lindquist, and S. D. Jacobs, "Assessment of Frictional Forces in Optical Polishing Using Atomic Force Microscopy," in *Optical Fabrication & Testing Workshop Topical Meeting* (Optical Society of America, Washington, DC, 1992), Vol. 24, pp. 118–125.

738. J. Lambropoulos, M. J. Cumbo, and S. D. Jacobs, "The Effects of Material Properties and Process Parameters on Surface Quality During Microgrinding of Glass," in *Optical Fabrication & Testing Workshop Topical Meeting* (Optical Society of America, Washington, DC, 1992), Vol. 24, pp. 50–53.

737. A. Lindquist, B. Puchebner, M. J. Cumbo, T. Rich, and S. D. Jacobs, "Bound Abrasive Polisher Concepts for the Center for Optics Manufacturing CNC Machining Centers," in *Optical Fabrication & Testing Workshop Topical Meeting* (Optical Society of America, Washington, DC, 1992), Vol. 24, pp. 131–133.

736. S. D. Jacobs, K. Kubath, and A. Maltsev, "Optical Fabrication Laboratory: Introductory Training for Optical Engineering Students," in *Optical Fabrication & Testing Workshop Topical Meeting* (Optical Society of America, Washington, DC, 1992), Vol. 24, pp. 17–20.

735. R. Sobolewski, “Electro-Optic Time Domain Characterization of Coplanar Transmission Structures,” in *LEOS ’92 Conference Proceedings Digest: IEEE Lasers and Electro-Optics Society 1992 Annual Meeting* (IEEE, Piscataway, NJ, 1992), pp. 117–118.

734. W. Kula and R. Sobolewski, “Measurements of Low Magnetic Field Microwave Absorption in 110-K Superconducting Bi-Sr-Ca-Cu-O Thin Films,” IEEE Trans. Appl. Supercond. **3**, 1446–1449 (1993).

733. T. Gong, L. X. Zheng, W. Xiong, W. Kula, Y. Kostoulas, R. Sobolewski, and P. M. Fauchet, “Femtosecond Optical Response of Y-Ba-Cu-O Thin Films: The Dependence on Optical Frequency, Excitation Intensity, and Electric Current,” Phys. Rev. B **47**, 14,495–14,502 (1993).

732. R. Sobolewski, W. Xiong, and W. Kula, “Patterning of Thin-Film High-T_c Circuits by the Laser-Writing Method,” IEEE Trans. Appl. Supercond. **3**, 2986–2989 (1993).

731. W. R. Donaldson and L. Mu, “Transmission-Line Modeling of Photoconductive Switches,” Proc. SPIE **1873**, 201–207 (1993).

730. D. Fried, J. D. B. Featherstone, D. Glena, B. Bordyn, and W. Seka “The Light-Scattering Properties of Dentin and Enamel at 543, 632, and 1053 nm,” Proc. SPIE **1880**, 240–245 (1993).

729a. P. A. Jaanimagi and D. K. Bradley, “Neutron-Streak- and Framing-Camera Diagnostics for ICF Implosions,” Nucl. Instrum. & Methods Phys. Res. A **335**, 547–552 (1993).

729. P. A. Jaanimagi and D. K. Bradley, “Neutron Streak and Framing Camera Diagnostics for ICF Implosions,” Proc. SPIE **1801**, 710–717 (1992).

728. C. Bamber, W. Donaldson, E. Lincke, and A. C. Melissinos, “Electron Acceleration Using Laser-Driven Photoconductive Switching,” Nucl. Instrum. & Methods Phys. Rev. A **327**, 227–252 (1993).

727. C. J. McKinstrie and X. D. Cao, “Nonlinear Detuning of Three-Wave Interactions,” J. Opt. Soc. Am. B **10**, 898–912 (1993).

726. D. Gupta, W. R. Donaldson, K. Kortkamp, and A. M. Kadin, “Optically Triggered Switching of Optically Thick YBCO Films,” IEEE Trans. Appl. Supercond. **3**, 2895–2898 (1993).

725. W. R. Donaldson and L. Mu, “The Effects of Doping on Photoconductive Switches as Determined by Electro-Optic Imaging,” Proc. SPIE **1632**, 81–87 (1992).

724. Y. Lin and T. Kessler, “Raman Scattering in Air: A Four-Dimensional System Analysis,” Proc. SPIE **1625**, 158–166 (1992).

723. D. Gupta, W. R. Donaldson, K. Kortkamp, and A. M. Kadin, “Optically Activated Opening Switches,” Proc. SPIE **1632**, 190–195 (1992).

722. M. D. Skeldon and S. T. Bui, "Temporal Mode Structure of a Regenerative Amplifier with Intracavity Étalons," J. Opt. Soc. Am. B **10**, 677–683 (1993).

721. R. P. Ratowsky, R. S. Craxton, M. D. Feit, R. A. London, R. S. Walling, G. M. Shimkaveg, A. L. Osterheld, and M. R. Carter, "Three Dimensional Time-Dependent Hydrodynamic and Propagation Modelling of X-Ray Laser Emission," in the *Proceedings of the Inst. Phys. Conf.*, Vol. No. 125; Sec. 6, 315–317 (1992).

720. S. Skupsky, T. J. Kessler, S. A. Letzring, and Y.-H. Chuang, "Laser-Beam Pulse Shaping Using Spectral Beam Deflection," J. Appl. Phys. **73**, 2678–2685 (1993).

719. J. Peatross, B. Buerke, and D. D. Meyerhofer, "Sequential Ionization in ^{3}He with a 1.5-ps 1-μm Laser Pulse," Phys. Rev. A **47**, 1517–1519 (1993).

718. S. Y. Chou, Y. Liu, and W. Khalil, "Ultrafast Nanoscale Metal-Semiconductor-Metal Photodetectors on Bulk and Low-Temperature Grown GaAs," Appl. Phys. Lett. **61**, 819–821 (1992).

717. T. Gong, P. M. Fauchet, J. F. Young, and P. J. Kelly, "Subpicosecond Hot-Hole Dynamics in Highly Excited GaAs," Appl. Phys. Lett. **62**, 522–524 (1993).

716. Y.-H. Chuang, L. Zheng, and D. D. Meyerhofer, "Propagation of Light Pulses in a Chirped-Pulse-Amplification Laser," IEEE J. Quantum Electron. **29**, 270–280 (1993).

715. E. M. Epperlein and R. W. Short, "Comments on 'Modification of Stimulated Brillouin, Saturated Raman Scattering and Strong Langmuir Turbulence by Nonlocal Heat Transport,' [Phys. Fluids B 4, 1394 (1992)]," Phys. Fluids B **4**, 4190 (1992).

714. not issued

713. C. J. McKinstrie and M. V. Goldman, "Three-Dimensional Instabilities of Counterpropagating Light Waves in Homogeneous Plasma," J. Opt. Soc. Am. B **9**, 1778–1792 (1992).

712. R. L. McCrory, "Laser-Driven ICF Experiments," in *Nuclear Fusion by Inertial Confinement: A Comprehensive Treatise*, edited by G. Velarde, Y. Ronen, and J. M. Martinez-Val (CRC Press, Boca Raton, FL, 1993), Chap. 22, pp. 555–596.

711. C. I. Moore, "Confinement of Electrons to the Center of a Laser Focus via the Ponderomotive Potential," J. Mod. Opt. **39**, 2171–2178 (1992).

710. E. M. Epperlein, "Laser Filamentation in Plasmas," in *Research Trends in Physics: Inertial Confinement Fusion,* edited by N. G. Basov, K. A. Brueckner, S. W. Haan, and C. Yamanaka (American Institute of Physics, New York, 1992), pp. 262–276.

709. F. J. Marshall, J. G. Jernigan, J. F. Arens, T. Collins, and G. Pien, "Measuring Laser-Plasma X-Ray Emission Using Photodiode Arrays," Rev. Sci. Instrum. **63**, 5094–5096 (1992).

708. D. K. Bradley, P. M. Bell, J. D. Kilkenny, R. Hanks, O. Landen, P. A. Jaanimagi, P. W. McKenty, and C. P. Verdon, "High-Speed Gated X-Ray Imaging for ICF Target Experiments," Rev. Sci. Instrum. **63**, 4813–4817 (1992).

707. B. S. W. Kuo, J. C. M. Li, and A. W. Schmid, "Thermal Conductivity and Interface Thermal Resistance of Si Film on Si Substrate Determined by Photothermal Displacement Interferometry," Appl. Phys. A. **55**, 289–296 (1992).

706. T. Gong and P. M. Fauchet, "Femtosecond Refractive and Absorptive Nonlinearities Due to Real Carriers in GaAs," in the *OSA Proceedings on Picosecond Electronics and Optoelectronics,* edited by T. C. L. G. Sollner and J. Shah (Optical Society of America, Washington, DC, 1991), Vol. 9, pp. 253–259.

705. J. W. Herman and H. E. Elsayed-Ali, "Superheating of Pb(111)," Phys. Rev. Lett. **69**, 1228–1231 (1992).

704. S. Alexandrou, R. Sobolewski, and T. Y. Hsiang, "Time-Domain Characterization of Bent Coplanar Waveguides," IEEE J. Quantum Electron. **28**, 2325–2332 (1992) (Special Issue on Ultrafast Optics and Electronics).

703. S. Krishnamurthy, S.-H. Chen, and T. N. Blanton, "Mesomorphic Behavior of Side-Chain Copolymers Containing Chiral as Well as Nematogenic Moieties Comprising *p*-Phenylene and *trans*-Cyclohexylene Rings," Macromolecules **25**, 5119–5124 (1992).

702. E. M. Epperlein, R. W. Short, and A. Simon, "Damping of Ion-Acoustic Waves in the Presence of Electron-Ion Collisions," Phys. Rev. Lett. **69**, 1765–1768 (1992).

701. L. J. Shaw-Klein, T. K. Hatwar, S. J. Burns, S. D. Jacobs, and J. C. Lambropoulos, "Thermal Conductivity of Amorphous Rare Earth—Transition Metal Thin Films for Magneto-Optic Recording," Thin Solid Films **216**, 181–183 (1992).

700. R. S. Marjoribanks, M. C. Richardson, P. A. Jaanimagi, and R. Epstein, "Electron-Temperature in Laser-Produced Plasmas by the Ratio of Isoelectronic Line Intensities," Phys. Rev. A **46**, 1747–1750 (1992).

699. G. G. Luther and C. J. McKinstrie, "Transverse Modulational Instability of Counterpropagating Light Waves," J. Opt. Soc. Am. B **9**, 1047–1060 (1992).

698. M. J. Guardalben and N. George, "Speckle Observation of Pulsed Laser-Induced Dynamics in a Guest-Host Smectic-A Liquid Crystal System," Liq. Cryst. **12**, 689–692 (1992).

697. L. J. Shaw-Klein, S. J. Burns, A. M. Kadin, S. D. Jacobs, and D. S. Mallory, "Anisotropic Thermal Conductivity of $YBa_2Cu_3O_{7-\delta}$ Thin Films," Supercond. Sci. Technol. **5**, 368–372 (1992).

696. S. Krishnamurthy and S.-H. Chen, "A Comparative Study of Helical Sense and Twisting Power in Low Molar Mass and Polymeric Chiral Nematics," Macromolecules **25**, 4485–4489 (1992).

695. J. Peatross, M. V. Fedorov, and D. D. Meyerhofer, "Laser Temporal and Spatial Effects on Ionization Suppression," J. Opt. Soc. Am. B **9**, 1234–1239 (1992).

694. M. M. Tedrow, J. H. Kelly, M. J. Shoup III, R. Juhala, A. Reynolds, L. Allen, and G. Dubé, "Characterization of a Diode-Pumped, 3.8-cm Clear-Aperture, High-Gain, Active-Mirror Laser Amplifier Using Cr:Nd:GSGG and Nd:GGG," in *OSA Proceedings on Advanced Solid State Lasers,* edited by L. L. Chase and A. A. Pinto (Optical Society of America, Washington, DC, 1992), Vol. 13, pp. 223–226.

693. M. Chaker, J. C. Kieffer, J. P. Matte, H. Pépin, P. Audebert, P. Maine, D. Strickland, P. Bado, and G. Mourou, "Interaction of a 1 Psec Laser Pulse with Solid Matter," Phys. Fluids B **3**, 167–175 (1991).

692. L. J. Shaw-Klein, S. D. Jacobs, S. J. Burns, and J. C. Lambropoulos, "Microstructural Control of Thin Film Thermal Conductivity," Proc. SPIE **1624**, 346–361 (1991).

691. C. J. McKinstrie and R. Bingham, "Simulated Raman Forward Scattering and the Relativistic Modulational Instability of Light Waves in Rarefied Plasma," Phys. Fluids B **4**, 2626–2633 (1992).

690. T. Y. Hsiang, J. F. Whitaker, R. Sobolewski, S. Martinet, and L. P. Golob, "High-Frequency Characterization of Superconducting Transmission Structures from Picosecond Transient Measurements," in the *Proceedings of the International Superconductivity Electronics Conference* (ISEC '89), 12–13 June 1989, Tokyo, Japan, pp. 510–515.

689. J. H. Kelly, M. J. Shoup III, M. D. Skeldon, and S. T. Bui, "Design and Energy Characteristics of a Multisegment Glass Disk Amplifier," Proc. SPIE **1410**, 40–46 (1992).

688. T. R. Boehly, R. S. Craxton, R. J. Hutchison, 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," Proc. SPIE **1627**, 236–245 (1992).

687. M. D. Skeldon, S. T. Bui, S. A. Letzring, and W. Siryk, "Implementation of Pulse Shaping on the OMEGA Laser System," Proc. SPIE **1627**, 246–251 (1992).

686. M. J. Shoup III, S. D. Jacobs, J. H. Kelly, C. T. Cotton, S. F. B. Morse, and S. A. Kumpan, "Specification of Large Aperture Nd:Phosphate Glass Laser Disks," Proc. SPIE **1627**, 192–201 (1992).

685. M. J. Shoup III, J. H. Kelly, M. M. Tedrow, F. A. Rister, and K. A. Thorp, "Mechanical Design of 15- and 20-cm Clear-Aperture Disk Amplifiers for the OMEGA Upgrade," Proc. SPIE **1627**, 252–259 (1992).

684. J. H. Kelly, M. J. Shoup III, M. M. Tedrow, and K. Thorp, "Energy Transport in a Modern Disk Amplifier," Proc. SPIE **1627**, 286–297 (1992).

683. J. H. Kelly, M. J. Shoup III, and M. M. Tedrow, "The Effect of Ionic and Particulate Platinum on the Performance of Large-Aperture Nd:Phosphate Glass Rod Amplifiers," Proc. SPIE **1627**, 175–181 (1992).

682. T. Gong and P. M. Fauchet, "Femtosecond Nonlinearities and Hot-Carrier Dynamics in GaAs," in *Ultrafast Processes in Spectroscopy 1991*, edited by A. Laubereau and A. Seilmeier, Institute of Physics Conference Series No. 126 (IOP Publishing Ltd., Bristol, England, 1992), pp. 317–324.

681. W. Seka, R. E. Bahr, R. W. Short, A. Simon, R. S. Craxton, D. S. Montgomery, and A. E. Rubenchik, "Nonlinear Laser-Matter Interaction Processes in Long-Scale-Length Plasmas," Phys. Fluids B **4**, 2232–2240 (1992).

680. E. M. Epperlein and R. W. Short, "Nonlocal Heat Transport Effects on the Filamentation of Light in Plasmas," Phys. Fluids B **4**, 2211–2216 (1992).

679. T. Juhasz, H. E. Elsayed-Ali, X. H. Hu, and W. E. Bron, "Time-Resolved Thermoreflectivity of Thin Gold Films and Its Dependence on the Ambient Temperature," Phys. Rev. B **45**, 13819–13822 (1992).

678. R. W. Short and E. M. Epperlein, "Thermal Stimulated Brillouin Scattering in Laser-Produced Plasmas," Phys. Rev. Lett. **68**, 3307–3310 (1992).

677. J. W. Herman and H. E. Elsayed-Ali, "Time-Resolved Study of Surface Disordering of Pb(110)," Phys. Rev. Lett. **68**, 2952–2955 (1992).

676. P. C. Cheng, H. G. Kim, and T. H. Lin, "The Study of Silica Deposition in the Leaf Blade of *Zea Mays* L. by X-Ray Contact Microradiography and Confocal Microscopy," in *X-Ray Microscopy III*, edited by A. Michette, G. Morrison, and C. Buckley (Springer-Verlag, Berlin, 1992), Vol. 67, pp. 417–422.

675. C. J. McKinstrie and R. Bingham, "The Modulational Instability of Coupled Waves," Phys. Fluids B **1**, 230–237 (1989).

674. D. K. Bradley, J. A. Delettrez, and C. P. Verdon, "Measurements of the Effect of Laser Beam Smoothing on Direct-Drive Inertial-Confinement-Fusion Capsule Implosions," Phys. Rev. Lett. **68**, 2774–2777 (1992).

673. D. L. Brown, W. Seka, and S. Letzring, "Toward Phase Noise Reduction in a Nd:YLF Laser Using Electro-Optic Feedback Control," Proc. SPIE **1410**, 209–214 (1991).

672. R. Sobolewski, "Prospects for High-T_c Superconducting Optoelectronics," in *Superconductivity and Its Applications*, AIP Conference Proceedings 251, edited by Y. H. Kao, A. E. Kaloyeros, and H. S. Kwok (American Institute of Physics, New York, 1992), pp. 659–670.

671. Y. Lin, W. Seka, J. H. Eberly, H. Huang, and D. L. Brown, "Experimental Investigation of Bessel Beam Characteristics," Appl. Opt. **31**, 2708–2713 (1992).

670. M. K. Prasad, K. G. Estabrook, J. A. Harte, R. S. Craxton, R. A. Bosch, Gar. E. Busch, and J. S. Kollin, "Holographic Interferograms from Laser Fusion Code Simulations," Phys. Fluids B **4**, 1569–1575 (1992).

669. H. Kim, B. Yaakobi, J. M. Soures, and P. C. Cheng, "Laser-Produced Plasma as a Source for X-Ray Microscopy," in *X-Ray Microscopy III*, edited by A. Michette, G. Morrison, and C. Buckley (Springer-Verlag, Berlin, 1992), pp. 47–53.

668. T. Boehly, B. Yaakobi, D. Shvarts, D. Meyerhofer, P. Audebert, J. Wang, M. Russotto, B. Boswell, R. Epstein, R. S. Craxton, and J. M. Soures, "X-Ray Laser Experiments Using Double Foil Nickel Targets," Appl. Phys. B **50**, 165–172 (1990).

667. M. D. Skeldon, R. S. Craxton, T. J. Kessler, W. Seka, R. W. Short, S. Skupsky, and J. M. Soures, "Efficient Harmonic Generation with a Broad-Band Laser," IEEE J. Quantum Electron. **28**, 1389–1399 (1992).

666. P. M. Fauchet, "Applied Optical Diagnostics in Semiconductors," Proc. IEEE **80**, 420–435 (1992) (invited).

665. P. M. Fauchet, T. Gong, P. J. Kelly, and J. F. Young, "Femtosecond Gain Dynamics in Thin GaAs Films," Semicond. Sci. Technol. **7**, B164–B166 (1992).

664. W. Seka, R. S. Craxton, R. E. Bahr, D. L. Brown, D. K. Bradley, P. A. Jaanimagi, B. Yaakobi, and R. Epstein, "Production and Characterization of Hot, Long-Scale-Length Laser Plasmas," Phys. Fluids B **4**, 432–449 (1992).

663. G. G. Luther and C. J. McKinstrie, "Cooperative Instabilities of Counterpropagating Light Waves in Homogeneous Plasma," Phys. Rev. Lett. **68**, 1710–1713 (1992).

662. H. E. Elsayed-Ali, J. W. Herman, and K.-K. Lo, "Picosecond Time-Resolved Electron Diffraction Studies of Laser Heated Metals," in the *Proceedings of the International Conference on Lasers '90*, edited by D. G. Harris and J. Herbelin (STS Press, McLean, VA, 1991), pp. 143–152.

661. S. Alexandrou, R. Sobolewski, and T. Y. Hsiang, "Bend-Induced Even and Odd Modes in Picosecond Electrical Transients Propagated on a Coplanar Waveguide," Appl. Phys. Lett. **60**, 1836–1838 (1992).

660. R. H. Hwang-Schweitzer, R. S. Knox, P. B. Gibbs, and J. Biggins, "Fluorescence Studies of Photoregulation in the Chrysophyte *Ochromonas Danica*," J. Lumin. **51**, 99–109 (1992).

659. D. D. Meyerhofer, S. Augst, C. I. Moore, and J. Peatross, "Angular Distribution of High-Order Harmonics Generated in the Tunneling Regime," Proc. SPIE **1551**, 246–251 (1991).

658. L. J. Shaw-Klein, T. K. Hatwar, S. J. Burns, S. D. Jacobs, and J. C. Lambropoulos, "Anisotropic Thermal Conductivity of Rare Earth-Transition Metal Thin Films," J. Mater. Res. **7**, 329–334 (1992).

657. R. L. McCrory, J. M. Soures, J. Knauer, S. Letzring, F. J. Marshall, W. Seka, S. Skupsky, C. Verdon, D. Bradley, R. S. Craxton, J. Delettrez, R. Epstein, P. Jaanimagi, R. Keck, T. Kessler, H. Kim, R. Kremens, P. W. McKenty, R. Short, and B. Yaakobi, "Direct-Drive Implosion Experiments at the Laboratory for Laser Energetics," in *Plasma Physics and Controlled Nuclear Fusion Research-1990* (IAEA, Vienna, 1991), Vol. 3, pp. 41–52.

656. S. Nakai, J. M. Soures, K. Ueda, R. N. Sudan, and G. Velarde, "Drivers for Inertial Confinement Fusion" (Report on the IAEA Technical Committee Meeting, Osaka, Japan, 15–19 April 1991), Nucl. Fusion **31**, 2005–2011 (1991).

655. W. R. Donaldson, "Optical Probing of Field Dependent Effects in GaAs Photoconductive Switches," in *8th IEEE International Pulsed Power Conference*, edited by R. White and K. Prestwich (IEEE, New York, 1991), pp. 45–49.

654. R. Sobolewski, "Ultrafast Superconducting Electronics," in *Semiconductor Equipment and Technology*, edited by A. Bakowski (Hi-Tech Co., Ltd., Warsaw, Poland, 1991), pp. 130–140 (invited).

653. P. M. Fauchet, D. A. Young, W. L. Nighan, and C. M. Fortmann, "Picosecond Carrier Dynamics in a $Si_{0.5}Ge_{0.5}$:H Measured with a Free Electron Laser," IEEE J. Quantum Electron. **27**, 2714–2717 (1991).

652. A. Honig, N. Alexander, Q. Fan, R. Q. Gram, and H. Kim, "Absence of Molecular Deuterium Dissociation During Room-Temperature Permeation into Polystyerene Inertially Confined Fusion Target Shells," J. Vac. Sci. Technol. A **9**, 3149–3152 (1991).

651. S. Augst, D. D. Meyerhofer, J. Peatross, and C. I. Moore, "Spatial Distribution of High-Order Harmonics Generated in the Tunneling Regime," in *Proceedings of the Topical Meeting on Short-Wavelength Coherent Radiation: Generation and Application*, edited by P. H. Bucksbaum and N. M. Ceglio (Optical Society of America, Monterey, CA, 1991), Vol. II, pp. 23–27.

650. E. M. Epperlein, "Electron Kinetics in Laser-Driven Inertial Confinement Fusion," in *Research Trends in Physics: Nonlinear and Relativistic Effects in Plasmas*, edited by V. Stefan (American Institute of Physics, New York, 1991), pp. 43–53.

649. J. Delettrez, R. Epstein, D. K. Bradley, P. A. Jaanimagi, R. C. Mancini, and C. F. Hooper, "Hydrodynamic Simulations with Non-LTE Atomic Physics of High-Density Implosions of Argon-Filled Polymer Shell Targets," in *Radiative Properties of Hot Dense Matter*, Proceedings of the 4th International Workshop, edited by W. Goldstein, C. Hooper, J. Gauthier, J. Seely, and R. Lee (World Scientific, NJ, 1991), pp. 309–320.

648. H. Chen, Y.-H. Chuang, J. A. Delettrez, S. Uchida, and D. D. Meyerhofer, "Study of X-Ray Emission from Picosecond Laser-Plasma Interaction," Proc. SPIE **1413**, 112–119 (1991).

647. Y.-H. Chuang, J. Peatross, and D. D. Meyerhofer, "Modeling the Pedestal in a Chirped-Pulse-Amplification Laser," Proc. SPIE **1413**, 32–40 (1991).

646. M. D. Wittman, D. Malacara, and H.-J. Kong, "High Precision Characterization of Gas-Filled Shells Using Scanning Fabry-Perot Interferometry," Proc. SPIE **1553**, 456–469 (1991).

645. B. Yaakobi, R. Epstein, and F. J. Marshall, "Diagnosis of Laser-Compressed Shells Based on Absorption of Core Radiation," Phys. Rev. A **44**, 8429–8432 (1991).

644. Y. Wang, B. Luther-Davis, Y.-H. Chuang, R. S. Craxton, and D. D. Meyerhofer, "Highly Efficient Conversion of Picosecond Nd Laser Pulses With the Use of Group-Velocity-Mismatched Frequency Doubling in KDP," Opt. Lett. **16**, 1862–1864 (1991).

643. R. L. McCrory, "High Power Laser Systems Applications to ICF," Scottish Universities Summer School in Physics, 12–20 August 1988, St. Andrews, Scotland (1988).

642. E. M. Epperlein and R. W. Short, "A Practical Nonlocal Model for Electron Heat Transport in Laser Plasmas," Phys. Fluids B **3**, 3092–3098 (1991).

641. E. M. Epperlein, "Kinetic Simulations of Laser Filamentation in Plasmas," Phys. Fluids B **3**, 3082–3086 (1991).

640. C. J. McKinstrie and M. Yu, "The Role of Ion Momentum in Stimulated Raman Scattering," Phys. Fluids B **3**, 3041–3045 (1991).

639. R. Epstein and B. Yaakobi, "Effect of Photoelectric Fluorescence on the Formation of X-Ray Absorption Lines in Laser-Plasma Experiments," Phys. Rev. A **44**, 5111–5117 (1991).

638. T. Gong, P. M. Fauchet, J. F. Young, and P. J. Kelly, "Femtosecond Gain Dynamics Due to Initial Thermalization of Hot Carriers Injected at 2 eV in GaAs," Phys. Rev. B **44**, 6542–6545 (1991).

637. S. Alexandrou, R. Sobolewski, H. Nakano, B. C. Tousley, and T. Y. Hsiang, "Picosecond Characterization of Bent Coplanar Waveguides," IEEE Microwave and Guided Wave Letters **1**, 236–238 (1991).

636. R. Sobolewski, "Applications of High-T_c Superconductors in Optoelectronics," Proc. SPIE **1512**, 14–27 (1991).

635. C. P. Verdon, R. L. McCrory, R. Epstein, H. M. Van Horn, and M. P. Savedoff, "Some Effects of the UV Radiation from White Dwarfs on the Accretion of Interstellar Hydrogen," in the *Proceedings of the 7th European Workshop on White Dwarfs*, edited by G. Vauclair and E. Sion (Kluwer Academic Publishers, The Netherlands, 1991), pp. 295–303.

634. J. M. Soures, "Progress in Inertial Fusion (Remarks of John M. Soures)," J. Fusion Energy **8**, 59–62 (1989).

633. R. L. McCrory and C. P. Verdon, "Inertial Confinement Fusion: Computer Simulation," in *Computer Applications of Plasma Science and Engineering*, edited by A. Drobot (Springer-Verlag, New York, 1991), pp. 291–325.

632. 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).

631. S. Krishnamurthy and S.-H. Chen, "Facilitating the Formation of the Grandjean Texture in Thermotropic Chiral Nematic Side-Chain Copolymers via Modulation of Backbone Flexibility," Macromolecules **24**, 4472–4474 (1991).

630. S. Krishnamurthy and S.-H. Chen, "New Thermotropic Chiral Nematic Copolymers. 2. A Study of Helical Sense and Twisting Power Based on Copolymers Containing (S)-(–)-1-Phenylethanol and (R)-(–)-Methyl Mandelate," Macromolecules **24**, 3481–3484 (1991).

629. M. Guardalben, A. Bevin, K. Marshall, A. Schmid, and F. Kreuzer, "1053-nm High-Field Effect in Monomeric and Polymeric Conjugated Systems," in *Laser Induced Damage in Optical Materials: 1988*, Natl. Inst. Stand. Technol. (U.S.), Spec. Publ. 775 (U.S. Government Printing Office, Washington, DC, 1989), pp. 462–469.

628. T. Gong, P. Mertz, W. L. Nighan, Jr., and P. M. Fauchet, "Femtosecond Refractive-Index Spectral Hole Burning in Intrinsic and Doped GaAs," Appl. Phys. Lett. **59**, 721–723 (1991).

627. J. M. Wallace and E. M. Epperlein, "Weibel Instability with Constant Driving Source," Phys. Fluids B **3**, 1579–1586 (1991).

626. J. D. Kilkenny, P. M. Bell, B. A. Hammel, R. L. Hanks, O. L. Landen, T. E. McEwan, D. S. Montgomery, R. E. Turner, J. D. Wiedwald, and D. K. Bradley, "Sub 100 psec X-Ray Gating Cameras for ICF Imaging Applications," Proc. SPIE **1358**, 117–133 (1990).

625. G. G. Luther, C. J. McKinstrie, and A. L. Gaeta, "Transverse Modulational Instability of Counterpropagating Light Waves," in *Nonlinear Dynamics in Optical Systems*, edited by N. B. Abraham, E. M. Garmire, and P. Mandel (Optical Society of America, Washington, DC, 1991), Vol. 7, pp. 205–209.

624. N. Sampat, "The RS-170 Video Standard and Scientific Imaging: The Problems," Advanced Imaging, 40–43 (1991).

623. D. Golini and S. D. Jacobs, "Physics of Loose Abrasive Microgrinding," Appl. Opt. **30**, 2761–2777 (1991).

622. L. J. Shaw-Klein, S. J. Burns, and S. D. Jacobs, "Thermal Conductivity of Aluminum Nitride Thin Films," in *Electronic Packaging Materials Science V*, edited by E. D. Lillie, P. S. Ho, R. Jaccodine, and K. Jackson (Materials Research Society, Pittsburgh, PA, 1991), Vol. 203, pp. 235–240.

621. M. D. Skeldon, M. S. Jin, D. J. Smith, and S. T. Bui, "Performance of Longitudinal Mode KD*P Pockels Cells with Transparent Conductive Coatings," Proc. SPIE **1410**, 116–124 (1991).

620. C. J. Twomey and S.-H. Chen, "Solid Polymers Doped with Rare Earth Metal Salts. I. Complex Formation and Morphology in the Neodymium Chloride-Poly(Ethylene Oxide) System," J. Polym. Sci. B, Polym. Phys. **29**, 859–865 (1991).

619. Y.-H. Chuang, D. D. Meyerhofer, S. Augst, H. Chen, J. Peatross, and S. Uchida, "Suppression of the Pedestal in a Chirped-Pulse-Amplification Laser," J. Opt. Soc. Am. B **8**, 1226–1235 (1991).

618. D. K. Bradley, T. R. Boehly, D. L. Brown, J. A. Delettrez, W. Seka, and D. J. Smith, "Early-Time 'Shine-Through' in Laser Irradiated Targets," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York, 1991), Vol. 9, pp. 323–334.

617. E. A. Murphy, H. E. Elsayed-Ali, K. T. Park, J. Cao, and Y. Gao, "Angle-Resolved X-Ray–Photoemission Study of the Surface Disordering of Pb(100)," Phys. Rev. B **43**, 12,615–12,618 (1991).

616. W. Seka, D. Golding, B. Klein, R. J. Lanzafame, and D. Rogers, "Laser Energy Repartition Inside Metal, Sapphire, and Quartz Surgical Laser Tips," Proc. SPIE **1398**, 162–169 (1990).

615. T. R. Boehly, M. A. Russotto, R. S. Craxton, R. Epstein, B. Yaakobi, L. B. Da Silva, J. Nilsen, E. A. Chandler, D. J. Fields, B. J. MacGowan, D. L. Matthews, J. H. Scofield, and G. Shimkaveg, "Demonstration of a Narrow-Divergence X-Ray Laser in Neonlike Titanium," Phys. Rev. A **42**, 6962–6965 (1990).

614. H.-C. Chen, G. A. Mourou, and R. S. Knox, "Subnanosecond Time-Resolved Electron Diffraction from Thin Crystalline Gold Films," in *Beam-Solid Interactions: Physical Phenomena*, edited by J. A. Knapp, P. Borgesen, and R. A. Zuhr (Materials Research Society, Pittsburgh, PA, 1990), Vol. 157, pp. 437–442.

613. S. H. Batha, D. D. Meyerhofer, A. Simon, and R. P. Drake, "Raman Up-Scattering in Long-Scale-Length, Laser-Produced Plasmas," Phys. Fluids B **3**, 448–454 (1991).

612. P. A. Jaanimagi, D. K. Bradley, J. Duff, G. G. Gregory, and M. C. Richardson, "Time-Resolving X-Ray Diagnostics for ICF," Rev. Sci. Instrum. **59**, 1854–1859 (1988) (invited).

611. J.-C. Lee, S. D. Jacobs, and K. J. Skerrett, "Laser Beam Apodizer Utilizing Gradient-Index Optical Effects in Cholesteric Liquid Crystals," Opt. Eng. **30**, 330–336 (1991).

610. S. Augst, D. D. Meyerhofer, D. Strickland, and S. L. Chin, "Laser Ionization of Noble Gases by Coulomb-Barrier Suppression," J. Opt. Soc. Am. B **8**, 858–867 (1991).

609. P. A. Jaanimagi, C. Hestdalen, J. H. Kelly, and W. D. Seka, "High Precision Measurements of the 24-Beam UV-OMEGA Laser," Proc. SPIE **1358**, 337–343 (1990).

608. W. R. Donaldson and L. E. Kingsley, "Optical Probing of Field Dependent Effects in GaAs Photoconductive Switches," Proc. SPIE **1378**, 226–236 (1990).

607. J. A. Delettrez and E. M. Epperlein, “Comment on ‘Modified Nonlocal Heat-Transport Formula for Steep Temperature Gradients’,” Phys. Rev. A **43**, 3174–3175 (1991).

606. M. D. Skeldon and R. E. Bahr, “Stimulated Rotational Raman Scattering in Air with a High-Power Broadband Laser,” Opt. Lett. **16**, 366–368 (1991).

605. C. Pruitt, “A Generalized EXIT,” J. Forth Appl. & Res. **6**, 157–164 (1991).

604. S. Papernov, K. Marshall, M. Guardalben, A. Schmid, and S. D. Jacobs, “351 nm, 0.7 ns Laser Damage Thresholds of Monomeric Liquid-Crystalline Systems,” Liq. Cryst. **9**, 71–76 (1991).

603. S. D. Jacobs, “Building Blocks for Better Lasers,” Chemtech, February 1991, 106–115.

602. Y.-H. Chuang, Z.-W. Li, D. D. Meyerhofer, and A. Schmid, “Nonresonant $\chi^{(3)}_{1111}$ Obtained by Nearly Degenerate Four-Wave Mixing Using Chirped-Pulse Technology,” Opt. Lett. **16**, 7–9 (1991).

601. R. Epstein, “Satellite Absorption Lines and the Temperature Dependence of X-Ray Absorption Features in High-Temperature Plasmas,” Phys. Rev. A **43**, 961–967 (1991).

600. H. E. Elsayed-Ali, T. Juhasz, G. O. Smith, and W. E. Bron, “Femtosecond Thermoreflectivity and Thermotransmissivity of Polycrystalline and Single-Crystalline Gold Films,” Phys. Rev. B **43**, 4488–4491 (1991).

599. L. E. Kingsley and W. R. Donaldson, “Electro-Optic Imaging of Surface Electric Fields in High-Power Photoconductive Switches,” IEEE Trans. Electron Devices **37**, 2449–2458 (1990).

598. P. A. Jaanimagi and C. Hestdalen, “Streak Camera Phosphors: Response to Ultra-Short Excitation,” Proc. SPIE **1346**, 443–448 (1990).

597. D. Golini and S. D. Jacobs, “Transition Between Brittle and Ductile Mode in Loose Abrasive Grinding,” Proc. SPIE **1333**, 80–91 (1990).

596. S.-H. Chen and M. L. Tsai, “New Thermotropic Chiral Nematic Copolymers Using (1S, 2S, 3S, 5R)-(+)- and (1R, 2R, 3R, 5S)-(-)-Isopinocampheol as Building Blocks,” Macromolecules **23**, 5055–5058 (1990).

595. J.-C. Lee and S. D. Jacobs, “Design and Construction of 1064-nm Liquid-Crystal Laser Cavity End Mirrors,” J. Appl. Phys. **68**, 6523–6525 (1990).

594. W. R. Donaldson, L. Kingsley, M. Weiner, A. Kim, and R. Zeto, “Electro-Optic Imaging of the Internal Fields in a GaAs Photoconductive Switch,” J. Appl. Phys. **68**, 6453–6457 (1990).

593. E. M. Epperlein, “Kinetic Theory of Laser Filamentation in Plasmas,” Phys. Rev. Lett. **65**, 2145–2148 (1990).

592. C. J. McKinstrie and R. Bingham, 'Erratum: "The Modulational Instability of Coupled Waves" [Phys. Fluids B 1, 230 (1989)],' Phys. Fluids B **2**, 3215 (1990). See Reprint 675.

591. D. L. Smith, J. H. Kelly, and M. J. Shoup III, "Low Cost Active-Active Oscillator Utilizing Loss Feedback Control," Appl. Opt. **29**, 786–790 (1990).

590. P. W. McKenty, C. P. Verdon, S. Skupsky, R. L. McCrory, D. K. Bradley, W. Seka, and P. A. Jaanimagi, "Numerical Modeling of Effects of Power Imbalance on Irradiation Nonuniformities," J. Appl. Phys. **68**, 5036–5043 (1990).

589. H. E. Elsayed-Ali and J. W. Herman, "Picosecond Transient Surface Temperature Measurement by Reflection High-Energy Electron Diffraction," in *Ultrafast Phenomena VII*, edited by C. B. Harris, E. P. Ippen, G. A. Mourou, and A. H. Zewail (Springer-Verlag, Berlin, 1990), Vol. 53, pp. 371–373.

588. H. E. Elsayed-Ali, T. Juhasz, G. O. Smith, and W. E. Bron, "Femtosecond Thermomodulation of Single-Crystalline and Polycrystalline Gold Films," in *Ultrafast Phenomena VII*, edited by C. B. Harris, E. P. Ippen, G. A. Mourou, and A. H. Zewail (Springer-Verlag, Berlin, 1990), Vol. 53, pp. 315–317.

587. A. M. Kadin, P. H. Ballentine, and W. R. Donaldson, "Relaxation Processes in Optically Excited High-T_c Films," Physica B **165&166**, 1507–1508 (1990).

586. B. Yaakobi, T. Boehly, and P. Audebert, "Focusing X-Ray Spectrograph for Laser Fusion Studies," Rev. Sci. Instrum. **61**, 1915–1919 (1990).

585. T. Boehly, R. S. Craxton, R. Epstein, M. Russotto, and B. Yaakobi, "X-Ray Lasing in Thick Foil Irradiation Geometry," Opt. Commun. **79**, 57–63 (1990).

584. H. E. Elsayed-Ali and J. W. Herman, "Picosecond Time-Resolved Surface-Lattice Temperature Probe," Appl. Phys. Lett. **57**, 1508–1510 (1990).

583. H. L. Helfer, "Of Martian Atmospheres, Oceans, and Fossils," Icarus **87**, 228–235 (1990).

582. J.-C. Lee, S. D. Jacobs, T. Gunderman, A. Schmid, T. J. Kessler, and M. D. Skeldon, "TEM_{00}-Mode and Single-Longitudinal-Mode Laser Operation with a Cholesteric Liquid-Crystal Laser End Mirror," Opt. Lett. **15**, 959–961 (1990).

581. 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," in *OSA Proceedings on Picosecond Electronics and Optoelectronics*, edited by T. C. L. G. Sollner and D. M. Bloom (Optical Society of America, Washington, DC, 1989), Vol. 4, pp. 106–109.

580. 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," in *OSA Proceedings on Picosecond Electronics and Optoelectronics*, edited by T. C. L. G. Sollner and D. M. Bloom (Optical Society of America, Washington, DC, 1989), Vol. 4, pp. 121–123.

579. M. Pessot, J. Squier, G. Mourou, and D. J. Harter, "Amplification of 100-fs Pulses in Alexandrite Using Chirped Pulse Techniques," in *OSA Proceedings on Tunable Solid State Lasers*, edited by M. L. Shand and H. P. Jenssen (Optical Society of America, Washington, DC, 1989), Vol. 5, pp. 44–49.

578. R. Epstein and S. Skupsky, "Anticipated Improvement in Laser Beam Uniformity Using Distributed Phase Plates with Quasirandom Patterns," J. Appl. Phys. **68**, 924–931 (1990).

577. C. J. McKinstrie and G. G. Luther, "The Modulational Instability of Colinear Waves," Phys. Scr. **30**, 31–40 (1990).

576. C. K. Immesoete, S. Scarantino, H. Kim, and L. Forsley, "Computer-Assisted Microballoon Selection for Inertial Confinement Fusion Targets," J. Vac. Sci. Technol. A **8**, 3324–3326 (1990).

575. R. Q. Gram, M. D. Wittman, C. Immesoete, H. Kim, R. S. Craxton, N. Sampat, S. Swales, G. Pien, J. M. Soures, and H. Kong, "Uniform Liquid-Fuel Layer Produced in a Cryogenic Inertial Fusion Target by a Time-Dependent Thermal Gradient," J. Vac. Sci. Technol. A **8**, 3319–3323 (1990).

574. B. Yaakobi, D. K. Bradley, F. J. Marshall, J. P. Knauer, J. M. Soures, and C. P. Verdon, "Absorption Lines Analysis of Laser Imploded Targets," Opt. Commun. **77**, 167–173 (1990).

573. G. G. Luther and C. J. McKinstrie, "Transverse Modulational Instability of Collinear Waves," J. Opt. Soc. Am. B **7**, 1125–1141 (1990).

572. G. Banas, F. V. Lawrence Jr., J. M. Rigsbee, and H. E. Elsayed-Ali, "Laser Shock Hardening of Welded Maraging Steel," in *Surface Engineering*, edited by S. A. Meguid (Elsevier Applied Science, London and New York, 1990), pp. 280–290.

571. S. Augst, D. D. Meyerhofer, C. I. Moore, and J. Peatross, "Tunneling Ionization and Harmonic Generation in Krypton Gas Using a High-Intensity, 1-μm, 1-ps Laser," Proc. SPIE **1229**, 152–158 (1990).

570. C. Immesoete, H. Kim, and L. Forsley, "Computer-Assisted Microballoon Selection for Laser Fusion Targets," in *Proceedings of the 1989 Rochester Forth Conference*, pp. 80–83 (1990).

569. D. D. Meyerhofer, H. Chen, Y-H. Chuang, J. Delettrez, R. Epstein, S. Uchida, and B. Yaakobi, "High-Intensity, Short-Pulse (1-ps), Laser-Plasma Interaction at 1 μm," Proc. SPIE **1229**, 119–127 (1990).

568. H. Chen, Y-H. Chuang, R. Epstein, D. D. Meyerhofer, S. Uchida, and B. Yaakobi, "Spectroscopic Investigation of Plasma Produced with High-Intensity, 1-μm, 1-ps Laser Pulses," Proc. SPIE **1229**, 182–189 (1990).

567. H. E. Elsayed-Ali and J. W. Herman, "Ultrahigh Vacuum Picosecond Laser-Driven Electron Diffraction System," Rev. Sci. Instrum. **61**, 1636–1647 (1990).

566. J. Delettrez, D. K. Bradley, P. A. Jaanimagi, and C. P. Verdon, "Effect of Barrier Layers in Burnthrough Experiments with 351-nm Laser Illumination," Phys. Rev. A **41**, 5583–5593 (1990).

565. R. W. Short and S. Skupsky, "Frequency Conversion of Broad-Bandwidth Laser Light," IEEE J. Quantum Electron. **26**, 580–588 (1990).

564. P. C. Cheng, S. P. Newberry, H. G. Kim, and I. S. Hwang, "X-Ray Microradiography and Shadow Projection X-Ray Microscopy," in *Modern Microscopies*, edited by P. J. Duke and A. G. Michette (Plenum Press, New York, 1990), pp. 87–118.

563. H. E. Elsayed-Ali, "Comment on 'Thermal Response of Metals to Ultrashort-Pulse Laser Excitation,' " Phys. Rev. Lett. **64**, 1846 (1990).

562. H. E. Elsayed-Ali and J. W. Herman, "Transient Surface Debye-Waller Effect," Proc. SPIE **1209**, 76–85 (1990).

561. M. L. Tsai, S. H. Chen, K. L. Marshall, and S. D. Jacobs, "Thermotropic and Optical Properties of Chiral Nematic Polymers," Int. J. Thermophys. **11**, 213–223 (1990).

560. J. C. Lambropoulos, "Analysis of Thermal Stress, Fracture Strength, and the Effect of Ion Exchange on High Average Power Phosphate Glass Slab Lasers," J. Appl. Phys. **67**, 1784–1792 (February 1990).

559. M. L. Tsai and S. H. Chen, "Helical Sense in Thermotropic Liquid Crystal Copolymers in Relation to the Structure of a Pendant Chiral Moiety," Macromolecules **23**, 1908–1911 (January 1990).

558. C. J. McKinstrie, G. G. Luther, and S. H. Batha, "Signal Enhancement in Collinear Four-Wave Mixing," J. Opt. Soc. Am. B **7**, 340–344 (1990).

557. H. E. Elsayed-Ali, "Hot Electron Relaxation in Metals," in *1989 Technical Digest Series, Volume 17*, High Energy Density Physics with Subpicosecond Laser Pulses (Optical Society of America, Washington, DC, 1989), pp. 58–65.

556. H. G. Kim, P. C. Cheng, M. D. Wittman, and H. J. Kong, "Pulsed X-Ray Contact Microradiography and Its Applications to Structural and Developmental Botany," in *X-Ray Microscopy in Biology and Medicine*, edited by K. Shinohara and K. Yada (Japan Sci. Soc. Press, Tokyo/Springer-Verlag, Berlin, 1990), pp. 233–242.

555. G. Banás, H. E. Elsayed-Ali, F. V. Lawrence, Jr., and J. M. Rigsbee, "Laser Shock-Induced Mechanical and Microstructural Modification of Welded Maraging Steel," J. Appl. Phys. **67**, 2380–2384 (1990).

554. L. E. Kingsley and W. R. Donaldson, "Electro-Optic Surface Field Imaging System," in *Digest of Technical Papers*, Seventh IEEE Pulsed Power Conference, edited by R. White and B. H. Bernstein (IEEE, New York, 1989), pp. 376-379.

553. W. R. Donaldson, A. M. Kadin, P. H. Ballentine, and M. Shoup, "Optically Activated High Temperature Superconductor Opening Switches," in *Digest of Technical Papers*,

Seventh IEEE Pulsed Power Conference, edited by R. White and B. H. Bernstein (IEEE, New York, 1989), pp. 897–901.

552. B. Boswell, D. Shvarts, T. Boehly, and B. Yaakobi, "X-Ray Laser Beam Propagation in Double-Foil Targets," Phys. Fluids B **2**, 436–444 (1990).

551. R. L. McCrory, J. M. Soures, C. P. Verdon, F. J. Marshall, S. A. Letzring, T. J. Kessler, J. P. Knauer, H. Kim, R. L. Kremens, S. Skupsky, R. L. Keck, D. K. Bradley, W. D. Seka, P. A. Jaanimagi, J. A. Delettrez, and P. W. McKenty, "High Density Direct Drive Cryogenic Implosion Experiments," in *Plasma Physics and Controlled Nuclear Fusion Research-1988* (IAEA, Vienna, 1989), Vol. 3, pp. 17–27.

550. J. M. Chwalek, D. R. Dykaar, J. F. Whitaker, T. Y. Hsiang, G. Mourou, D. K. Lathrop, S. E. Russek, and R. A. Buhrman, "Picosecond Transient Propagation Studies on Thin-Film Y-Ba-Cu-O Transmission Lines," in *Ultrafast Phenomena VI*, edited by T. Yajima, K. Yoshihara, C. B. Harris, and S. Shionoya (Springer-Verlag, Berlin, 1988), Vol. 48, pp. 201–204.

549. J. F. Whitaker, T. B. Norris, G. Mourou, T. C. L. G. Sollner, W. D. Goodhue, X. J. Song, and L. F. Eastman, "Tunneling-Time Measurements of a Resonant Tunneling Diode," in *Ultrafast Phenomena VI*, edited by T. Yajima, K. Yoshihara, C. B. Harris, and S. Shionoya (Springer-Verlag, Berlin, 1988), Vol. 48, pp. 185–188.

548. X. Zhou, T. Y. Hsiang, and R. J. D. Miller, "Monte Carlo Study of Photogenerated Carrier Transport in GaAs Surface Space-Charge Fields," J. Appl. Phys. **66** (7), 3066–3073 (1989).

547. H. Kim, P.-C. Cheng, M. D. Wittman, and H.-J. Kong, "X-Ray Microscopy of Living Biological Specimens Using a Laser-Plasma as an X-Ray Source," Proc. SPIE **1140**, 256–261 (1989).

546. P. A. Jaanimagi, R. Saunders, C. Hestdalen, W. VanRemmen, and M. Russotto, "Pulse-Shape Measurements on OMEGA," Proc. SPIE **1155**, 556–562 (1989).

545. A. Simon and R. W. Short, "Reply to the Comments of Drake," Phys. Fluids B **2**, 227–228 (1990).

544. S. D. Jacobs, T. E. Gunderman, and K. L. Marshall, "Liquid Crystal Optics," Opt. News, December 1989, 39.

543. S. Augst, D. Strickland, D. D. Meyerhofer, S. L. Chin, and J. H. Eberly, "Tunneling Ionization of Noble Gases in a High-Intensity Laser Field," Phys. Rev. Lett. **63**, 2212–2215 (1989).

542. A. M. Kadin, W. R. Donaldson, P. H. Ballentine, and R. Sobolewski, "Nonequilibrium Hot-Electron Transport in Optically Irradiated YBCO Films," Physica C **162–164**, 387–388 (1989).

541. H. Kong, M. D. Wittman, and H. Kim, "New Shearing Interferometer for Real-Time Characterization of Cryogenic Laser Fusion Targets," Appl. Phys. Lett. **55**, 2274–2276 (1989).

540. 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," Plasma Phys. Control. Fusion **31**, 1517–1533 (1989).

539. J. C. Lambropoulos, M. R. Jolly, C. A. Amsden, S. E. Gilman, M. J. Sinicropi, D. Diakomihalis, and S. D. Jacobs, "Thermal Conductivity of Dielectric Thin Films," J. Appl. Phys. **66**, 4230–4242 (1989).

538. S. Skupsky, R. W. Short, T. Kessler, R. S. Craxton, S. Letzring, and J. M. Soures, "Improved Laser-Beam Uniformity Using the Angular Dispersion of Frequency-Modulated Light," J. Appl. Phys. **66**, 3456–3462 (1989).

537. R. L. McCrory and C. P. Verdon, "Computer Modeling and Simulation in Inertial Confinement Fusion," in *Proceedings of the International School of Plasma Physics Workshop*, Varenna, Italy, 6–16 September 1988, Inertial Confinement Fusion, pp. 83–124 (1989).

536. C. J. McKinstrie and J. M. Kindel, "Laser-Plasma Acceleration of Particles," in *Laser-Induced Plasmas and Applications*, edited by L. J. Radziemski and D. A. Cremers (Dekker, New York, 1989), p. 413.

535. W. R. Donaldson, "Picosecond and Femtosecond Laser Systems for Particle Accelerator Applications," in *Proceedings of the Switched Power Workshop*, Shelter Island, NY, 16–21 October 1988, Brookhaven National Laboratory, pp. 191–219 (1989).

534. M. Pessot, J. Squier, G. Mourou, and D. J. Harter, "Chirped Pulse Amplification of 100 fs Pulses," Opt. Lett. **14**, 797–799 (1989).

533. J. H. Kelly, M. J. Shoup III, and D. L. Smith, "OMEGA Upgrade Staging Options," Proc. SPIE **1040**, 184–190 (1989).

532. S. Krishnamurthy and S. H. Chen, "Purification of Thermotropic Liquid Crystalline Siloxane Oligomer with Supercritical Carbon Dioxide," Makromol. Chem. **190**, 1407–1412 (1989).

531. F. J. Marshall, S. A. Letzring, C. P. Verdon, S. Skupsky, R. L. Keck, J. P. Knauer, R. L. Kremens, D. K. Bradley, T. Kessler, J. Delettrez, H. Kim, J. M. Soures, and R. L. McCrory, "Cryogenic-Laser-Fusion Target Implosion Studies Performed with the OMEGA UV-Laser System," Phys. Rev. A **40**, 2547–2557 (1989).

530. R. L. McCrory, "Energy Supply and Demand in the Twenty-First Century," J. Fusion Energy **8**, 127–133 (1989).

529. C. J. Hayden and E. Spiller, "Large Area Coatings with Uniform Thickness Fabricated in a Small Vacuum Chamber," Appl. Opt. **28**, 2694–2696 (1989).

528. T. B. Norris, N. Vodjdani, B. Vinter, C. Weisbuch, and G. A. Mourou, "Charge-Transfer-State Photoluminescence in Asymmetric Coupled Quantum Wells," Phys. Rev. B **40**, 1392–1395 (1989).

527. R. L. McCrory, J. M. Soures, C. P. Verdon, F. J. Marshall, S. A. Letzring, T. J. Kessler, J. P. Knauer, H. Kim, R. L. Kremens, S. Skupsky, R. L. Keck, D. K. Bradley, W. D. Seka, P. A. Jaanimagi, J. A. Delettrez, and P. W. McKenty, "High-Density Direct-Drive Implosion Experiments," in *Laser Interaction with Matter*, edited by G. Velarde, E. Minguez, and J. Perlado (World Scientific, Singapore, New Jersey, London, and Hong Kong, 1989), pp. 73–78.

526. S. Skupsky and T. Kessler, "A Source of Hot Spots in Frequency-Tripled Laser Light," Opt. Commun. **70**, 123–127 (1989).

525. R. L. McCrory and J. M. Soures, "Inertially Confined Fusion," in *Laser-Induced Plasmas and Applications*, edited by L. J. Radziemski and D. A. Cremers (Dekker, New York, 1989), pp. 207–268.

524. G. J. Rickard, A. R. Bell, and E. M. Epperlein, "2D Fokker-Planck Simulations of Short-Pulse Laser-Plasma Interactions," Phys. Rev. Lett. **62**, 2687–2690 (June 1989).

523. E. J. Miller, M. D. Skeldon, and R. W. Boyd, "Spatial Evolution of Laser Beam Profiles in an SBS Amplifier," Appl. Opt. **28**, 92–96 (1989).

522. M. D. Skeldon and R. W. Boyd, "Transverse-Mode Structure of a Phase-Conjugate Oscillator Based on Brillouin-Enhanced Four-Wave Mixing," IEEE J. Quantum Electron. **25**, 588–594 (1989).

521. W. R. Donaldson, A. M. Kadin, P. H. Ballentine, and R. Sobolewski, "Interactions of Picosecond Optical Pulses with High T_c Superconducting Films," Appl. Phys. Lett. **54**, 2470–2472 (1989).

520. M. L. Tsai, S. H. Chen, and S. D. Jacobs, "Optical Notch Filter Using Thermotropic Liquid Crystalline Polymers," Appl. Phys. Lett. **54**, 2395–2397 (1989).

519. A. Simon and R. W. Short, "Energy and Nonlinearity Considerations for the Enhanced Plasma Wave Model of Raman Scattering," Phys. Fluids B **1**, 1073-1081 (1989).

518. J. Nees, S. Williamson, and G. Mourou, "100 GHz Traveling-Wave Electro-Optic Phase Modulator," Appl. Phys. Lett. **54**, 1962–1964 (1989).

517. C. F. Hooper, Jr., D. P. Kilcrease, R. C. Macini, L. A. Woltz, D. K. Bradley, P. A. Jaanimagi, and M. C. Richardson, "Time-Resolved Spectroscopic Measurements of High Density in Ar-Filled Microballoon Implosions," Phys. Rev. Lett. **63**, 267–270 (1989).

516. J. P. Apruzese, P. G. Burkhalter, J. E. Rogerson, J. Davis, J. F. Seely, C. M. Brown, D. A. Newman, R. W. Clark, J. P. Knauer, and D. K. Bradley, "Enhanced Excitation and

Ionization of Neonlike Silver in Laser-Produced Plasmas Simultaneously Irradiated by Two Wavelengths," Phys. Rev. A **39**, 5697–5704 (1989).

515. 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," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York, 1988), Vol. 8, pp. 483–502.

514. 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., Supplement 25, **48**, 169–172 (1989).

513. 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' [Phys. Fluids 31, 3130 (1988)]," Phys. Fluids B **1**, 1341–1342 (1989).

512. 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).

511. 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).

510. 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).

509. 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).

508. 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).

507. P. A. Jaanimagi, D. D. Meyerhofer, and M. C. Richardson, "Diagnosing One Picosecond Duration Ultra-High Brightness Sources," Proc. SPIE **981**, 146–152 (1988).

506. D. K. Bradley, J. Delettrez, P. A. Jaanimagi, F. J. Marshall, C. P. Verdon, J. D. Kilkenny, and P. Bell, "X-Ray Gated Images of Imploding Microballoons," Proc. SPIE **981**, 176–185 (1988).

505. 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).

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

503. 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).

502. A. Simon, S. Radin, and R. W. Short, "Long-Time Simulation of the Single-Mode Bump-On-Tail Instability," Phys. Fluids **31**, 3649–3659 (1988).

501. E. M. Epperlein, G. J. Rickard, and A. R. Bell, "Two-Dimensional Nonlocal Electron Transport in Laser-Produced Plasmas," Phys. Rev. Lett. **61**, 2453–2456 (1988).

500. S. H. Batha, R. Bahr, L. M. Goldman, W. Seka, and A. Simon, "Observations of Enhanced Thomson Scattering," Phys. Fluids **31**, 3667–3674 (1988).

499. D. H. Harter and P. Bado, "Wavelength Tunable Alexandrite Regenerative Amplifier," Appl. Opt. **27**, 4392–395 (1988).

498. 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).

497. J. S. Coe, P. Maine, and P. Bado, "Regenerative Amplification of Picosecond Pulses in Nd:YLF:Gain Narrowing and Gain Saturation," J. Opt. Soc. Am. B **5**, 2560–2563 (1988).

496. J. C. Lee, J. H. Kelly, D. L. Smith, and S. D. Jacobs, "Gain Squaring in a Cr:Nd:GSGG Active-Mirror Amplifier Using a Cholesteric Liquid Crystal Mirror," IEEE J. Quantum Electron. **24**, 2238–2242 (1988).

495. A. E. Rosenbluth and J. M. Forsyth, "The Reflecting Properties of Soft X-Ray Multilayers," *AIP Conf. Proc.* (American Institute of Physics, New York, 1981), pp. 280–285.

494. J. C. Moreno, S. Goldsmith, H. R. Griem, L. Cohen, and M. C. Richardson, "Identification of New Ti XXI and Ti XIX Transitions Emitted By Laser-Produced Plasmas," J. Opt. Soc. Am. B **4**, 1931–1933 (1987).

493. B. Yaakobi, D. Shvarts, T. Boehly, P. Audebert, R. Epstein, B. Boswell, M. C. Richardson, and J. M. Soures, "X-Ray Laser Studies at LLE," IEEE Trans. Plasma Sci. **16**, 505–511 (1988).

492. K. L. Marshall and S. D. Jacobs, "Near-Infrared Dichroism of a Mesogenic Transition Metal Complex and its Solubility in Nematic Hosts," Mol. Cryst. Liq. Cryst. **159**, 181–196 (1988).

491. A. Simon and R. W. Short, "Alternative Analysis of CO_2-Laser-Produced Plasma Waves," Phys. Fluids **31**, 3371–3374 (1988).

490. Y. F. Maa and S. H. Chen, "Synthesis of Thermotropic Liquid Crystalline Side-Chain Polymers Via Chemical Modification of Polymeric Carboxylic Acids," Macromolecules **22**, 2036–2039 (1989).

489. P. C. Cheng, H. G. Kim, D. M. Shinozaki, K. H. Tan, and M. D. Wittman, "X-Ray Microscopy—Its Application to Biological Sciences," Proc. International Symposium, Brookhaven, NY, August 31 - September 4, 1987, in *X-Ray Microscopy II*, edited by D. Sayre, M. Howells, J. Kirz, and H. Rarback (Springer-Verlag, Berlin, 1988), pp. 356–364.

488. S. H. Chen and Y. F. Maa, "Preparation of Liquid-Crystalline Side-Chain Polyacrylate by Chemically Modifying Poly (sodium acrylate) in Hexamethylphosphoramide," Macromolecules **21**, 2697–2699 (1987).

487. 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 (1987).

486. C. M. Brown, U. Feldman, J. F. Seely, M. C. Richardson, H. Chen, J. H. Underwood, and A. Zigler, "Imaging of Laser-Produced Plasmas at 44 Å Using a Multilayer Mirror," Opt. Commun. **68**, 190–195 (1988).

485. J. F. Whitaker, G. A. Mourou, T. C. L. G. Sollner, and W. D. Goodhue, "Picosecond Switching Time Measurement of a Resonant Tunneling Diode," Appl. Phys. Lett. **53**, 385–387 (1988).

484. S. Goldsmith, J. C. Moreno, H. R. Griem, L. Cohen, and M. C. Richardson, "Relative Ion Expansion Velocity in Laser-Produced Plasmas," J. Appl. Phys. **64**, 581–585 (1988).

483. W. E. Behring, J. H. Underwood, C. M. Brown, U. Feldman, J. F. Seely, F. J. Marshall, and M. C. Richardson, "Grazing Incidence Technique to Obtain Spatially Resolved Spectra from Laser Heated Plasmas," Appl. Opt. **27**, 2762–2767 (1988).

482. C. Bamber, W. Donaldson, T. Juhasz, L. Kingsley, and A. C. Melissinos, "Radial Compression of Picosecond Electrical Pulses," Part. Accel. **23**, 255–263 (1987).

481. R. L. McCrory, J. M. Soures, C. P. Verdon, F. J. Marshall, S. A. Letzring, S. Skupsky, T. J. Kessler, R. L. Kremens, J. P. Knauer, H. Kim, J. Delettrez, R. L. Keck, and D. K. Bradley, "Laser-Driven Implosion of Thermonuclear Fuel to 20 to 40 g cm^{-3}," Nature **335**, 225–230 (1988).

480. S. D. Jacobs, K. A. Cerqua, K. L. Marshall, A. Schmid, M. J. Guardalben, and K. J. Skerrett, "Liquid Crystal Optics for Laser Systems," Proc. SPIE **895**, 120–151 (1988).

479. S. D. Jacobs, K. A. Cerqua, K. L. Marshall, A. Schmid, M. J. Guardalben, and K. J. Skerrett, "Liquid-Crystal Laser Optics: Design, Fabrication, and Performance," J. Opt. Soc. Am. B **5**, 1962–1979 (1988).

478. R. Q. Gram, C. K. Immesoete, H. Kim, and L. Forsley, "Bounce-Coated Ablation Layers on Fusion Targets," J. Vac. Sci. Technol. A **6**, 2998–3001 (1988).

477. K. L. Marshall, A. W. Schmid, D. J. Smith, A. A. Bevin, M. J. Guardalben, and S. D. Jacobs, "Performance of Protective Polymeric Coatings for Nonlinear Optical Materials," J. Appl. Phys. **64**, 2279–2285 (1988).

476. R. L. McCrory and J. M. Soures, "Fusion Progress Report: A Milestone Achieved," The Scientist **2**, 17–18 (May 1988).

475. R. L. McCrory, J. M. Soures, C. P. Verdon, P. Audebert, D. Bradley, J. Delettrez, R. Hutchison, S. D. Jacobs, P. Jaanimagi, R. Keck, H. Kim, T. Kessler, J. Knauer, R. Kremens, S. Letzring, F. Marshall, P. McKenty, M. C. Richardson, A. Simon, R. Short, S. Skupsky, and B. Yaakobi, "High-Pressure Laser-Fusion Compression Results," Proc. SPIE **913**, 40–58 (1988).

474. M. C. Richardson, P. A. Jaanimagi, H. Chen, R. S. Marjoribanks, D. K. Bradley, J. F. Seely, U. Feldman, C. Brown, J. Underwood, B. Henke, and A. Zigler, "Space- and Time-Resolved Diagnostics of Soft X-Ray Emission from Laser Plasma," Proc. SPIE **913**, 110–117 (1988).

473. P. Bado, M. Pessot, J. Squier, G. A. Mourou, and D. J. Harter, "Regenerative Amplification in Alexandrite of Pulses from Specialized Oscillators," IEEE J. Quantum Electron. **24**, 1167–1171 (1988).

472. D. J. Smith, C. J. Hayden, B. U. Krakauer, A. W. Schmid, and M. J. Guardalben, "Yttrium Oxide Coatings for High Power Lasers at 351 nm," in *Laser Induced Damage in Optical Materials: 1985*, Natl. Bur. Stand. (U.S.), Spec. Publ. 746 (U.S. Government Printing Office, Washington, DC, 1988), pp. 284–296.

471. K. A. Cerqua, S. Jacobs, B. L. McIntyre, and W. Zhong, "Ion Exchange Strengthening of Nd Doped Phosphate Laser Glass," in *Laser Induced Damage in Optical Materials: 1985*, Natl. Bur. Stand. (U.S.), Spec. Publ. 746 (U.S. Government Printing Office, Washington, DC, 1986), pp. 159–169.

470. B. Liao, D. J. Smith, and B. McIntyre, "The Formation and Development of Nodular Defects in Optical Coatings," in *Laser Induced Damage in Optical Materials: 1985*, Natl. Bur. Stand. (U.S.), Spec. Publ. 746 (U.S. Government Printing Office, Washington, DC, 1986), pp. 305–318.

469. W. Watson, "Vacuum-Assisted Contaminated-Particulate Removal," J. Vac. Sci. Technol. A **6**, 2568–2570 (1988).

468. K. A. Cerqua, M. J. Shoup III, D. L. Smith, S. D. Jacobs, and J. H. Kelly, "Strengthened Phosphate Glass in a High Rep Rate Active-Mirror Amplifier Geometry," Appl. Opt. **27**, 2567–2572 (1988).

467. B. Yaakobi, D. Shvarts, T. Boehly, P. Audebert, R. Epstein, B. Boswell, M. C. Richardson, and J. M. Soures, "X-Ray Laser Studies at LLE," Proc. SPIE **875**, 9–19 (1988).

466. K. A. Cerqua, J. E. Hayden, and W. C. LaCourse, "Stress Measurements in Sol-Gel Films," J. Non-Cryst. Solids **100**, 471–478 (1988). (See LLE Lab Report #179.)

465. D. R. Dykaar, R. Sobolewski, J. M. Chwalek, J. F. Whitaker, T. Y. Hsiang, G. A. Mourou, D. K. Lathrop, S. E. Russek, and R. A. Buhrman, "High-Frequency

Characterization of Thin-Film Y-Ba-Cu Oxide Superconducting Transmission Lines," Appl. Phys. Lett. **52**, 1444–1446 (1988).

464. W. R. Donaldson, "Optical Probes for the Characterization of Surface Breakdown," Proc. SPIE **871**, 157–164 (1988).

463. G. Mourou, "High Speed Circuit Testing Using Ultrafast Optical Techniques," Microelectron. Eng. **7**, 343–349 (1987).

462. R. Sobolewski, D. R. Dykaar, T. Y. Hsiang, C. Vanneste, and C. C. Chi, "Chaos in Pulse-Driven Josephson Junctions," Phys. Rev. B **37**, 3778–3781 (1988).

461. J. C. Moreno, H. R. Greim, S. Goldsmith, A. Krumbein, R. Epstein, P. A. Jaanimagi, M. C. Richardson, and B. Yaakobi, "Thermal Transport Studies of 351-nm Laser-Produced Plasmas Using Extreme Ultraviolet Spectroscopy," J. Appl. Phys. **63**, 674–680 (1988).

460. J. C. Lee, S. D. Jacobs, and R. J. Gingold, "Nd:YAG Laser with Cholesteric Liquid Crystal Cavity Mirrors," Proc. SPIE **824**, 7–17 (1988).

459. J. C. Lambropoulos, "Thermal Stresses During Quenching of Short Glass Cylinders," J. Am. Ceram. Soc. **71**, C-24–C-25 (1988).

458. P. Maine, D. Strickland, P. Bado, M. Pessot, and G. Mourou, "Generation of Ultrahigh Peak Power Pulses by Chirped Pulse Amplification," IEEE J. Quantum Electron. **24**, 398–403 (1988).

457. R. L. McCrory, "Status of Inertial Confinement Fusion - Panel Discussion," J. Fusion Energy **6**, 383–386 (1987).

456. T. Boehly, P. Audebert, D. Shvarts, B. Yaakobi, B. Boswell, D. Bradley, R. S. Craxton, R. Epstein, M. C. Richardson, and J. M. Soures, "Experimental Studies of New Geometries for X-Ray Laser Experiments," Proc. SPIE **831**, 305–320 (1987).

455. P. Audebert, D. K. Bradley, M. C. Richardson, R. Epstein, P. A. Jaanimagi, O. Barnouin, J. Delettrez, B. Yaakobi, F. J. Marshall, and B. L. Henke, "Time and Space Resolved X-Ray Spectra of Imploding Laser Fusion Targets," Proc. SPIE **831**, 9–17 (1988).

454. P. A. Jaanimagi, G. G. Gregory, S. A. Letzring, R. S. Marjoribanks, and M. C. Richardson, "Time-Resolved Grating Spectrograph Incorporating a Reflection Photocathode for Soft X-Ray Spectroscopy," Proc. SPIE **831**, 179–184 (1988).

453. P. C. Cheng, H. Kim, and M. D. Wittman, "Microradiography with Laser-Produced Plasma Sources - Surface Roughness on PMMA Resist," Proc. SPIE **831**, 217–223 (1988).

452. R. S. Marjoribanks, M. C. Richardson, P. R. Audebert, D. K. Bradley, G. G. Gregory, and P. A. Jaanimagi, "Time-Resolved Spectroscopy for Detailed Studies ($\lambda/\mathrm{D}\lambda > 1000$) of Weak X-Ray Emitters in Laser Plasmas," Proc. SPIE **831**, 185–198 (1988).

451. D. Shvarts, B. Yaakobi, P. Audebert, T. Boehly, B. Boswell, D. Bradley, R. S. Craxton, R. Epstein, M. C. Richardson, and J. M. Soures, "Studies of New Geometries for X-Ray Laser Experiments," Proc. SPIE **831**, 283–292 (1987).

450. G. G. Gregory, P. A. Jaanimagi, P. W. McKenty, S. A. Letzring, and M. C. Richardson, "Precision Alignment Technique for Time-Resolved X-Ray Photography," Proc. SPIE **832**, 383–391 (1988).

449. P. A. Jaanimagi, J. Delettrez, G. G. Gregory, R. S. Marjoribanks, M. C. Richardson, D. K. Bradley, and B. L. Henke, "Application of X-Ray Streak Cameras for Fusion Diagnostics," Proc. SPIE **832**, 368–375 (1988).

448. P. A. Jaanimagi, J. Duff, G. G. Gregory, R. L. Keck, M. C. Richardson, W. Seka, D. J. Bowley, S. Majumdar, and J. Wright, "Multi-Channel Optical Streak Cameras," Proc. SPIE **832**, 236–246 (1988).

447. D. J. Smith, "Modeling of Nodular Defects in Thin Films for Various Deposition Techniques," Proc. SPIE **821**, 120–128 (1988).

446. J. F. Whitaker, R. Sobolewski, D. R. Dykaar, T. Y. Hsiang, and G. A. Mourou, "Propagation Model for Ultrafast Signals on Superconducting Dispersive Striplines," IEEE Trans. Microwave Theory Tech. **36**, 277–285 (1988).

445. J. F. Whitaker, R. Sobolewski, D. R. Dykaar, T. Y. Hsiang, and G. A. Mourou, "Subpicosecond Pulse Propagation on Superconducting Striplines," Jpn. J. Appl. Phys. **26**, 1563–1564 (1987).

444. J. H. Kelly, D. L. Smith, J. C. Lee, S. D. Jacobs, D. J. Smith, J. C. Lambropoulos, and M. J. Shoup III, "High-Repetition-Rate Cr:Nd:GSGG Active-Mirror Amplifier," Opt. Lett. **12**, 996–998 (1987).

443. S. Skupsky, "'Coulomb Logarithm' for Inverse Bremsstrahlung Laser Absorption," Phys. Rev. A **36**, 5701–5712 1987). (See LLE Lab Report #174.)

442. B. Yaakobi, "X-Ray Lasers: A Progress Report," Photonics Spectra **21**, 65 (1987).

441. J. S. Wark, R. R. Whitlock, A. Hauer, J. E. Swain, and P. J. Solone, "Short-Pulse X-Ray Diffraction from Laser-Shocked Crystals," in *Shock Waves in Condensed Matter 1987*, edited by S. C. Schmidt and N. C. Holmes (Elsevier, Amsterdam, 1988), pp. 781–786.

440. D. R. Dykaar, R. Sobolewski, J. M. Chwalek, T. Y. Hsiang, and G. A. Mourou, "Electro-Optic Sampler for Characterization of Devices in a Cryogenic Environment," in *Advances in Cryogenic Engineering*, edited by R. W. Fast (Plenum Press, New York, 1988), Vol. 33, pp. 1097–1104.

439. H. E. Elsayed-Ali and G. A. Mourou, "Picosecond Reflection High-Energy Electron Diffraction," Appl. Phys. Lett. **52**, 103–104 (1988).

438. A. Simon and R. W. Short, "Comments on 'Motion of an Electron Bunch through a Plasma'," Phys. Fluids **31**, 217 (1988).

437. R. L. McCrory, J. M. Soures, P. Audebert, O. Barnouin, R. S. Craxton, J. Delettrez, R. Epstein, L. Forsley, R. J. Hutchison, P. Jaanimagi, S. Jacobs, R. L. Keck. T. Kessler, H. Kim, R. Kremens, S. A. Letzring, R. S. Marjoribanks, F. Marshall, P. McKenty, G. A. Mourou, M. C. Richardson, W. Seka, R. W. Short, A. Simon, S. Skupsky, C. Verdon, J. Wark, B. Yaakobi, S. E. Bodner, J. P. Dahlburg, M. Emery, J. Gardner, J. Grun, T. Lee, C. Manka, E. McLean, S. Obenschain, B. Ripin, and J. Stamper, "Direct-Drive Laser Fusion in the United States of America," in *Plasma Physics and Controlled Nuclear Fusion Research-1986* (IAEA, Vienna, 1987), Vol. 3, pp. 47–54.

436. J. C. Lee, S. D. Jacobs, and A. Schmid, "Retro-Self-Focusing and Pinholing Effect in a Cholesteric Liquid Crystal," Mol. Cryst. Liq. Cryst. **150b**, 617–629 (1987).

435. J. Delettrez, R. Epstein, M. C. Richardson, P. A. Jaanimagi, and B. L. Henke, "Effect of Laser Illumination Nonuniformity on the Analysis of Time-Resolved X-Ray Measurements in UV Spherical Transport Experiments," Phys. Rev. A **36**, 3926–3934 (1987).

434. T. Y. Hsiang, J. F. Whitaker, R. Sobolewski, D. R. Dykaar, and G. A. Mourou, "Propagation Characteristics of Picosecond Electrical Transients on Coplanar Striplines," Appl. Phys. Lett. **51**, 1551–1553 (1987).

433. R. W. Short, W. Seka, and R. Bahr, "Stimulated Raman Scattering in Self-Focused Light Filaments in Laser-Produced Plasmas," Phys. Fluids **30**, 3245–3251 (1987).

432. K. A. Cerqua, S. D. Jacobs, and A. Lindquist, "Ion-Exchange Strengthened Phosphate Laser Glass: Development and Applications," J. Non-Cryst. Solids **93**, 361–376 (1987). (See LLE Lab Report #175.)

431. T. Jackson, J. Nees, R. Vallee, and G. Mourou, "Novel Method for Ultrahigh-Frequency Electro-Optic Time-Domain Reflectometry," Electron. Lett. **23**, 1130–1131 (1987).

430. S. M. Gracewski and R. Q. Gram, "Analysis of Forces on Inertial Confinement Fusion Targets during Ablation Layer Coating," J. Vac. Sci. Technol. A **5**, 2941–2944 (1987).

429. P. D. Goldstone, S. R. Goldman, W. C. Mead, J. A. Cobble, G. Stradling, R. H. Day, A. Hauer, M. C. Richardson, R. S. Marjoribanks, P. A. Jaanimagi, R. L. Keck, F. J. Marshall, W. Seka, O. Barnouin, B. Yaakobi, and S. A. Letzring, "Dynamics of High-Z Plasmas Produced by a Short-Wavelength Laser," Phys. Rev. Lett. **59**, 56–59 (1987).

428. K. A. Cerqua, A. Lindquist, S. D. Jacobs, and J. Lambropoulos, "Strengthened Glass for High Average Power Laser Applications," Proc. SPIE **736**, 13–21 (1987).

427. H. E. Elsayed-Ali and G. A. Mourou, "Phase Transitions in the Picosecond Time Domain," in *Interfaces, Superlattices, and Thin Films*, edited by J. D. Dow (Materials Research Society, Pittsburgh, PA, 1987), Vol. 77, pp. 51–57.

426. H. Kim and M. D. Wittman, "X-Ray Microscopy of Inertial Fusion Targets Using a Laser-Produced Plasma as an X-Ray Source," J. Vac. Sci. Technol. A **5**, 2781–2784 (1987).

425. W. C. Mead, S. V. Coggeshall, S. R. Goldman, E. K. Stover, P. D. Goldstone, J. Cobble, A. Hauer, G. Stradling, J. M. Kindel, L. Montierth, M. C. Richardson, O. Barnouin, P. Jaanimagi, F. Marshall, R. Marjoribanks, R. L. Kauffman, H. N. Kornblum, and B. F. Lasinski, "Analysis, Modeling, and Design of Short-Wavelength Laser-Plasma Experiments," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York, 1986), Vol. 7, pp. 723–744.

424. D. P. Butler, T. Y. Hsiang, and G. A. Mourou, "Transient Relaxation of the Normal State Resistance of Tin Microstrips in the Presence of Current Bias," J. Low Temp. Phys. **61**, 69–78 (1985).

423. U. Feldman, J. F. Seely, W. E. Behring, M. C. Richardson, and S. Goldsmith, "Transitions of the Type 2*s*-2*p* in Fluorinelike and Oxygenlike As, Se, Br, and Rb," J. Opt. Soc. Am. B **2**, 1658–1660 (1985).

422. W. H. Knox and K. J. Teegarden, "Picosecond Time-Resolved Spectroscopic Study of Vibrational Relaxation Processes in Alkali Halides," J. Lumin. **31 & 32**, 39–44 (1984).

421. S. H. Batha and C. J. McKinstrie, "Temporal Energy Cascading in the Beat Wave Accelerator," IEEE Trans. Plasma Sci. **PS-15**, 131–133 (1987).

420. M. C. Richardson, W. Friedman, D. M. Villeneuve, J. Hoose, B. Yaakobi, S. Letzring, J. Rizzo, J. Delettrez, K. Lee, C. Verdon, B. Brinker, R. Hutchison, L. Iwan, R. L. McCrory, and J. Soures, "Large Aspect Ratio Target Implosions with OMEGA," Appl. Phys. B **28**, 296 (1982).

419. M. Pessot, P. Maine, and G. Mourou, "1000 Times Expansion/Compression of Optical Pulses for Chirped Pulse Amplification," Opt. Commun. **62**, 419–421 (1987).

418. S. A. Letzring, R. S. Marjoribanks, M. C. Richardson, and D. M. Villeneuve, "Time Resolved X-Ray Spectroscopy of Symmetrically Imploded Targets," Proc. SPIE **348**, 325–329 (1982).

417. R. S. Marjoribanks, S. A. Letzring, M. C. Richardson, and P. A. Jaanimagi, "Time Resolved X-Ray Spectrometry for Laser Fusion Studies," Proc. SPIE **348**, 318–324 (1982).

416. S. Williamson, G. Mourou, and S. Letzring, "Picosecond Electron Diffraction," Proc. SPIE **348**, 313–317 (1982).

415. W. Knox, G. Mourou, and S. Letzring, "Jitter-Free Signal Averaging Streak Camera," Proc. SPIE **348**, 308–312 (1982).

414. J. S. Wark, R. R. Whitlock, A. Hauer, J. E. Swain, and P. J. Solone, "Shock Launching in Silicon Studied with Use of Pulsed X-Ray Diffraction," Phys. Rev. B **35**, 9391–9394 (1987).

413. D. C. Brown, J. M. Rinefierd, S. D. Jacobs, and J. A. Abate, "Electronic, Nuclear and Total Nonlinear Indices of Liquids," in *Laser Induced Damage in Optical Materials:*

1979, Natl. Bur. Stand. (U.S.), Spec. Publ. 568 (U.S. Government Printing Office, Washington, DC, 1980), pp. 91–98. (See LLE Lab Report #97.)

412. J. A. Abate, A. W. Schmid, M. J. Guardalben, D. J. Smith, and S. D. Jacobs, "Characterization of Micron-Sized, Optical Coating Defects by Photothermal Deflection Microscopy," in *Laser Induced Damage in Optical Materials: 1983*, Natl. Bur. Stand. (U.S.), Spec. Publ. 688 (U.S. Government Printing Office, Washington, DC, 1985), pp. 385–392.

411. J. M. Rinefierd, S. D. Jacobs, D. C. Brown, J. A. Abate, O. Lewis, and H. Appelbaum, "Liquids for High Repetition Rate Glass Laser Systems," in *Laser Induced Damage in Optical Materials: 1978*, Natl. Bur. Stand. (U.S.), Spec. Publ. 541 (U.S. Government Printing Office, Washington, DC, 1979), pp. 109–121. (See LLE Lab Report #82.)

410. S. D. Jacobs, "Phosphate Glass: Optimized for the University of Rochester's OMEGA Laser System," in *Proceedings of the Technical Program, Electro-Optics/Laser '78 Conference*, 24–31 (1978).

409. D. R. Dykaar, R. Sobolewski, T. Y. Hsiang, and G. A. Mourou, "Response of a Josephson Junction to a Stepped Voltage Pulse," IEEE Trans. Magn. **MAG-23**, 767–770 (1987).

408. R. A. Lawton and K. Meyer, "Waveform Standards for Electrooptics: A Pulse Duration Comparison," IEEE Trans. Microwave Theory Tech. **MTT-35**, 450–453 (1987).

407. M. A. Loudiana, J. T. Dickinson, A. Schmid, and E. J. Ashley, "Electron Enhanced Sorption of Fluorine by Silver Surfaces," Appl. Surf. Sci. **28**, 311–322 (1987).

406. H. L. Helfer and R. L. McCrory, "Some Properties of a Polarized OCP," in *Strongly Coupled Plasma Physics*, edited by F. J. Rogers and H. E. Dewitt (Plenum Press, New York, 1987), pp. 41–44.

405. S. D. Jacobs, K. A. Cerqua, T. J. Kessler, W. Seka, and R. Bahr, "Retrofit of a High Power Nd:Glass Laser System with Liquid Crystal Polarizers," in *Laser Induced Damage in Optical Materials: 1984*, Natl. Bur. Stand. (U.S.), Spec. Publ. 727 (U.S. Government Printing Office, Washington, DC, 1985), pp. 15–22. (See LLE Lab Report #163.)

404. R. L. McCrory, "Industry and University Roles in Fusion Development—Panel Discussion," J. Fusion Energy **6**, 184–187 (1987).

403. P. Bado, I. N. Duling III, T. Sizer II, T. B. Norris, and G. A. Mourou, "Generation of White Light at 1 KHz," Proc. SPIE **533**, 59–62 (1985).

402. P. Bado, M. Bouvier, and J. S. Coe, "Nd:YLF Mode-Locked Oscillator and Regenerative Amplifier," Opt. Lett. **12**, 319–321 (1987).

401. C. M. Brown, J. O. Ekberg, U. Feldman, J. F. Seely, M. C. Richardson, F. J. Marshall, and W. E. Behring, "Transitions in Lithiumlike Cu^{26+} and Berylliumlike Cu^{25+} of Interest for X-Ray Laser Research," J. Opt. Soc. Am. B **4**, 533–538 (1987).

400. H. E. Elsayed-Ali, T. B. Norris, M. A. Pessot, and G. A. Mourou, "Time-Resolved Observation of Electron-Phonon Relaxation in Copper," Phys. Rev. Lett. **58**, 1212–1215 (1987).

399. J. Delettrez, "Thermal Electron Transport in Direct-Drive Laser Fusion," Can. J. Phys. **64**, 932–943 (1986).

398. S. M. Lane, M. D. Cable, S. G. Prussin, S. G. Glendinning, D. H. Munro, S. P. Hatchett, K. G. Estabrook, L. J. Suter, and M. C. Richardson, "High-Yield Direct Drive Experiments at NOVA," Rev. Sci. Instrum. **57**, 2100 (1986).

397. H. Kim, "High-Power Laser," KSEA Letters **15**, 13–20 (1987).

396. M. Guardalben, A. Schmid, M. Loudiana, and J. T. Dickinson, "Photothermal Analysis of Synergistic Radiation Effects in ThF_4 Optical Thin Films," Phys. Rev. B **35**, 4026–4030 (1987).

395. S. D. Jacobs, J. E. Hayden, and A. L. Hrycin, "Practical Measurements of Adhesion and Strain for Improved Optical Coatings," Proc. SPIE **678**, 66–78 (1986).

394. J. O. Ekberg, J. F. Seely, C. M. Brown, U. Feldman, M. C. Richardson, and W. E. Behring, "Spectra and Energy Levels of Cu XXII, Cu XXIII, Cu XXIV, and Cu XXV," J. Opt. Soc. Am. B **4**, 420–423 (1987).

393. J. S. Wark, A. Hauer, and J. D. Kilkenny, "Studies of X-Ray Switching and Shuttering Techniques," Rev. Sci. Instrum. **57**, 2168–2170 (1986).

392. J. F. Whitaker, T. B. Norris, G. Mourou, and T. Y. Hsiang, "Pulse Dispersion and Shaping in Microstrip Lines," IEEE Trans. Microwave Theory Tech. **MTT–35**, 41–47 (1987).

391. J. Lee and S. D. Jacobs, "Refractive Index and $\Delta n/\Delta T$ of Cr:Nd:GSGG at 1064 nm," Appl. Opt. **26**, 777–778 (1987).

390. J. M. Soures, R. L. McCrory, K. A. Cerqua, R. S. Craxton, R. Hutchison, S. D. Jacobs, T. Kessler, J. Kelly, G. Mourou, W. Seka, and D. Strickland, "High Power Laser Research and Development at the Laboratory for Laser Energetics," Proc. SPIE **709**, 74–87 (1986).

389. R. S. Marjoribanks, P. A. Jaanimagi, and M. C. Richardson, "Principles of Streak and Framing Photography by Frequency-Encoding on a Chirped Pulse," Proc. SPIE **693**, 134–146 (1986).

388. U. Feldman, J. O. Ekberg, C. M. Brown, J. F. Seely, and M. C. Richardson, "$2l–3l'$ and $2l–4l'$ Transitions in Heliumlike and Hydrogenlike Silicon," J. Opt. Soc. Am. B **4**, 103-104 (1987).

387. J. F. Seely, J. O. Ekberg, C. M. Brown, U. Feldman, W. E. Behring, J. Reader, and M. C. Richardson, "Laser-Produced Spectra and QED Effects for Fe-, Co-, Cu-, and Zn-like Ions of Au, Pb, Th, and U," Phys. Rev. Lett. **57**, 2924–2926 (1986).

386. M. C. Richardson, G. G. Gregory, R. L. Keck, S. A. Letzring, R. S. Marjoribanks, F. J. Marshall, G. Pien, J. S. Wark, B. Yaakobi, P. D. Goldstone, A. Hauer, G. S. Stradling, F. Ameduri, B. L. Henke, and P. A. Jaanimagi, "Time-Resolved X-Ray Diagnostics for High Density Plasma Physics Studies," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York, 1986), Vol. 7, pp. 179–211.

385. M. C. Richardson, P. W. McKenty, F. J. Marshall, C. P. Verdon, J. M. Soures, R. L. McCrory, O. Barnouin, R. S. Craxton, J. Delettrez, R. J. Hutchison, P. A. Jaanimagi, R. Keck, T. Kessler, H. Kim, S. A. Letzring, D. M. Roback, W. Seka, S. Skupsky, B. Yaakobi, S. M. Lane, and S. Prussin, "Ablatively-Driven Targets Imploded with the 24 UV Beam OMEGA System," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York, 1986), Vol. 7, pp. 421–448.

384. B. Yaakobi, O. Barnouin, C. B. Collins, R. Epstein, A. Hauer, S. Letzring, F. J. Marshall, R. L. McCrory, M. C. Richardson, J. M. Soures, and S. S. Wagel, "Laser Generated X-Ray Studies Relevant to Compression Diagnostics and Nuclear Level Excitation," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Hora and G. H. Miley (Plenum Press, New York, 1986), Vol. 7, pp. 89–108.

383. J. Nees and G. Mourou, "Noncontact Electro-Optic Sampling with a GaAs Injection Laser," Electron. Lett. **22**, 918–919 (1986).

382. J. F. Whitaker and G. A. Mourou, "Optical Reconfiguration of Electrical Networks," Electron. Lett. **22**, 899–900 (1986).

381. R. R. Whitlock, S. P. Obenschain, J. Grun, J. A. Stamper, J. A. Sprague, B. V. Sweeney, B. H. Ripin, and R. S. Craxton, "Flash X Radiography of Laser-Accelerated Foils," J. Appl. Phys. **61**, 131–141 (1987).

380. M. C. Richardson, B. Yaakobi, R. Epstein, J. S. Wark, and J. M. Soures, "Imploding Cylindrical Plasmas as X-Ray Laser Media," Proc. SPIE **664**, 270–276 (1986).

379. G. Pien, M. C. Richardson, P. D. Goldstone, R. H. Day, F. Ameduri, and G. Eden, "Computerized 3-GHz Multichannel Soft X-Ray Diode Spectrometer for High Density Plasma Diagnosis," Nucl. Instrum. & Methods Phys. Res. **B18**, 101–110 (1986).

378. S. G. Prussin, S. M. Lane, M. C. Richardson, and S. G. Noyes, "Debris Collection from Implosion of Microballoons," Rev. Sci. Instrum. **57**, 1734–1736 (1986).

377. S. D. Jacobs, A. L. Hrycin, K. A. Cerqua, C. M. Kennemore III, and U. J. Gibson, "Adhesion Enhancements and Internal Stress in MgF_2 Films Deposited with Ion Beam Assistance," Thin Solid Films **144**, 69–76 (1986).

376. K. L. Marshall, "Laser Damage Resistant Polysiloxane Polymers as Homeotropic Alignment Layers for Liquid Crystal Devices," Mol. Cryst. Liq. Cryst. Lett. **3**, 133−138 (1986).

375. S. D. Jacobs, "Liquid Crystals for Laser Applications," in *CRC Handbook of Laser Science and Technology*, Vol. IV: Optical Materials, Part 2: Properties, Sec. 2: Special Properties, edited by M. J. Weber (CRC Press, Boca Raton, FL, 1986), pp. 409–465. (See LLE Lab Report #143.)

374. L. M. Goldman, W. Seka, K. Tanaka, R. Short, and A. Simon, "The Use of Laser Harmonic Spectroscopy as a Target Diagnostic," Can. J. Phys. **64**, 969–976 (1986).

373. A. Simon, "Raman Scattering," Can. J. Phys. **64**, 956–960 (1986).

372. W. E. Behring, C. M. Brown, U. Feldman, J. F. Seely, J. Reader, and M. C. Richardson, "Transitions of the Type 2*s*–2*p* in Oxygenlike Y, Zr, and Nb," J. Opt. Soc. Am. B **3**, 1113–1115 (1986).

371. U. Feldman, J. F. Seely, C. M. Brown, J. O. Ekberg, M. C. Richardson, W. E. Behring, and J. Reader, "Spectra and Energy Levels of Br XXV, Br XXIX, Br XXX, and Br XXXI," J. Opt. Soc. Am. B **3**, 1605–1608 (November 1986).

370. P. A. Holstein, J. Delettrez, S. Skupsky, and J. P. Matte, "Modeling Nonlocal Heat Flow in Laser-Produced Plasmas," J. Appl. Phys. **60**, 2296–2300 (1986).

369. M. D. J. Burgess, R. Dragila, B. Luther-Davies, K. A. Nugent, A. J. Perry, G. J. Tallents, M. C. Richardson, and R. S. Craxton, "Characterization of Plasmas Produced by a Laser Line Focus," Phys. Rev. A **32**, 2899–2908 (1985).

368. B. Yaakobi, R. D. Frankel, J. M. Forsyth, and J. M. Soures, "Laser Generated X-Ray Source for Time-Resolved Biological and Material Structure Studies," in *Structural Biological Applications of X-Ray Absorption, Scattering, and Diffraction* (Academic Press, San Diego, CA, 1986), pp. 331–348.

367. B. W. Krakauer, J. S. Gau, and D. J. Smith, "Structural Characterization of Yttrium Oxide Thin Films Using Transmission Electron Microscopy," J. Mater. Sci. Lett. **5**, 667-670 (1986).

366. P. G. Burkhalter, D. A. Newman, D. L. Rosen, K. Hudson, M. Richardson, and P. Audebert, "Spectral Measurements from Laser-Produced Plasma in OMEGA," Rev. Sci. Instrum. **57**, 2171–2173 (1986).

365. S. D. Jacobs, "Liquid Crystal Devices for Laser Systems," J. Fusion Energy **5**, 65−75 (1986).

364. M. C. Richardson, R. F. Keck, S. A. Letzring, R. L. McCrory, P. W. McKenty, D. M. Roback, J. M. Soures, C. P. Verdon, S. M. Lane, and S. G. Prussin, "Neutron Diagnosis of Compressed ICF Targets," Rev. Sci. Instrum. **57**, 1737–1739 (1986).

363. P. A. Jaanimagi, L. DaSilva, G. G. Gregory, C. Hestdalen, C. D. Kiikka, R. Kotmel, and M. C. Richardson, "Optical Fiducials for X-Ray Streak Cameras at LLE," Rev. Sci. Instrum. **57**, 2189–2191 (1986).

362. B. Yaakobi, O. Barnouin, M. C. Richardson, J. M. Soures, A. Hauer, and B. Post, "X-Ray Spectroscopic Methods for the Diagnosis of Laser-Imploded Targets," Rev. Sci. Instrum. **57**, 2124–2128 (1986) (invited).

361. P. A. Jaanimagi, J. Delettrez, B. L. Henke, and M. C. Richardson, "Temporal Dependence of the Mass-Ablation Rate in UV-Laser-Irradiated Spherical Targets," Phys. Rev. A **34**, 1322–1327 (1986).

360. T. Kessler, W. Seka, J. Kelly, D. Smith, R. Bahr, W. Lockman, N. Wong, and J. Soures, "A Terawatt ND:Glass Active Mirror System," Proc. SPIE **622**, 156–160 (1986).

359. A. Hauer, R. D. Cowan, B. Yaakobi, O. Barnouin, and R. Epstein, "Absorption-Spectroscopy Diagnosis of Pusher Conditions in Laser-Driven Implosions," Phys. Rev. A **34**, 411–420 (1986).

358. R. S. Craxton, R. L. McCrory, and J. M. Soures, "Progress in Laser Fusion," Sci. Am. **255**, 68–79 (1986).

357. H. Kim, S. Noyes, M. C. Richardson, and B. Yaakobi, "Fabrication of Thin Cylindrical Targets for X-Ray Laser Experiments," J. Vac. Sci. Technol. A **4**, 1142–1144 (1986).

356. R. Q. Gram, H. Kim, J. F. Mason, and M. Wittman, "Ablation Layer Coating of Mechanically Nonsupported Inertial Fusion Targets," J. Vac. Sci. Technol. A **4**, 1145-1149 (1986).

355. M. C. Richardson, P. W. McKenty, R. L. Keck, F. J. Marshall, D. M. Roback, C. P. Verdon, R. L. McCrory, J. M. Soures, and S. M. Lane, "High-Aspect-Ratio Laser-Fusion Targets Driven by 24-Beam UV Laser Radiation," Phys. Rev. Lett. **56**, 2048–2051 (1986).

354. G. Mourou, D. Strickland, and S. Williamson, "How Pulse-Compression Techniques can be Applied to High-Energy Laser Amplifiers," Laser Focus **22**, 104–110 (1986).

353. C. J. McKinstrie and A. Simon, "Nonlinear Saturation of the Absolute Stimulated Raman Scattering Instability in a Finite Collisional Plasma," Phys. Fluids **29**, 1959–1970 (1986).

352. A. Simon, W. Seka, L. M. Goldman and R. W. Short, "Raman Scattering in Inhomogeneous Laser-Produced Plasma," Phys. Fluids **29**, 1704–1718 (1986).

351. J. A. Valdmanis and G. Mourou, "Electro-Optic Sampling: Testing Picosecond Electronics, Part 2, Applications," Laser Focus, 96–106 (1986).

350. J. A. Valdmanis and G. Mourou, "Electro-Optic Sampling: Testing Picosecond Electronics, Part 1, Principles and Embodiments," Laser Focus, 84–96 (1986).

349. R. L. McCrory, "Inertial Confinement Fusion (ICF)," Phys. Today, S-61–S-62 (1986).

348. J. A. Valdmanis and G. Mourou, "Subpicosecond Electrooptic Sampling: Principles and Applications," IEEE J. Quantum Electron. **QE-22**, 69–78 (1986).

347. F. J. Marshall, D. A. Hardy, A. Huber, J. Pantazis, J. McGarity, E. Holeman, and J. D. Winningham, "Calibration System for Electron Detectors in the Energy Range from 10 eV to 50 keV," Rev. Sci. Instrum. **57**, 229–235 (1986).

346. R. Epstein and R. S. Craxton, "Statistical Ray Tracing in Plasmas with Random Density Fluctuations," Phys. Rev. A **33**, 1892–1902 (1986).

345. G. G. Gregory, S. A. Letzring, M. C. Richardson, and C. D. Kiikka, "High Time-Space Resolved Photography of Laser Imploded Fusion Targets," Proc. SPIE **569**, 141–148 (1985).

344. P. A. Jaanimagi, B. L. Henke, and M. C. Richardson, "An Absolutely Calibrated Time-Resolving X-Ray Spectrometer," Proc. SPIE **569**, 159–166 (1985).

343. M. C. Richardson, G. G. Gregory, S. A. Letzring, R. S. Marjoribanks, B. Yaakobi, B. L. Henke, P. A. Jaanimagi, and A. Hauer, "Time-Resolved X-Ray Spectrographic Instrumentation for Laser Fusion and X-Ray Laser Studies," Proc. SPIE **569**, 149–158 (1985).

342. R. Epstein, S. Skupsky, and J. Delettrez, "Effects of Non-Maxwellian Electron Populations in Non-LTE Simulations of Laser-Plasma Thermal Transport and Implosion Experiments," J. Quant. Spectrosc. Radiat. Transfer **35**, 131–143 (1986).

341. M. C. Richardson, R. Epstein, O. Barnouin, P. A. Jaanimagi, R. Keck, H. G. Kim, R. S. Marjoribanks, S. Noyes, J. M. Soures, and B. Yaakobi, "Multibeam, Laser-Imploded Cylindrical Plasmas," Phys. Rev. A **33**, 1246–1253 (1986).

340. D. Strickland and G. Mourou, "Compression of Amplified Chirped Optical Pulses," Opt. Commun. **56**, 219–221 (1985).

339. R. L. McCrory and J. M. Soures, "Laser Fusion Experiments at the University of Rochester," Nucl. Fusion **25**, 1367–1372 (1985).

338. T. Sizer II and M. G. Raymer, "Modification of Atomic Collision Dynamics by Intense Ultrashort Laser Pulses," Phys. Rev. Lett. **56**, 123–126 (1986).

337. D. R. Dykaar, T. Y. Hsiang, and G. A. Mourou, "Development of a Picosecond Cryo-Sampler Using Electro-Optic Techniques," in *Picosecond Electronics and Optoelectronics*, edited by G. A. Mourou, D. M. Bloom, and C. H. Lee (Springer-Verlag, New York, 1985), pp. 249–252.

336. C. J. Kryzak, K. E. Meyer, and G. A. Mourou, "Transmission Line Designs with a Measured Step Response of 3 ps Per Centimeter," in *Picosecond Electronics and Optoelectronics*, edited by G. A. Mourou, D. M. Bloom, and C. H. Lee (Springer-Verlag, New York, 1985), pp. 244–248.

335. S. Williamson and G. A. Mourou, “Picosecond Electro-Electron Optic Oscilloscope,” in *Picosecond Electronics and Optoelectronics*, edited by G. A. Mourou, D. M. Bloom, and C. H. Lee (Springer-Verlag, New York, 1985), pp. 58–61.

334. K. E. Meyer, D. R. Dykaar, and G. A. Mourou, “Characterization of TEGFETs and MESFETs Using the Electrooptic Sampling Technique,” in *Picosecond Electronics and Optoelectronics*, edited by G. A. Mourou, D. M. Bloom, and C. H. Lee (Springer-Verlag, New York, 1985), pp. 54–57.

333. K. E. Meyer and G. A. Mourou, “Two Dimensional E-Field Mapping with Subpicosecond Resolution,” in *Picosecond Electronics and Optoelectronics*, edited by G. A. Mourou, D. M. Bloom, and C. H. Lee (Springer-Verlag, New York, 1985), pp. 46-49.

332. S. Williamson, G. Mourou, and J. C. M. Li, “Time-Resolved, Laser-Induced Phase Transformation in Aluminum,” in *Energy Beam-Solid Interactions and Transient Thermal Processing 1984 Symposium* **35** (Materials Research Society, Pittsburgh, PA, 1985), pp. 87–96.

331. B. L. Henke and P. A. Jaanimagi, “Two-Channel, Elliptical Analyzer Spectrograph for Absolute, Time-Resolving Time-Integrating Spectrometry of Pulsed X-Ray Sources in the 100-10000-eV Region,” Rev. Sci. Instrum. **56**, 1537–1552 (1985).

330. J. F. Seely, C. M. Brown, U. Feldman, M. Richardson, B. Yaakobi, and W. E. Behring, “Evidence for Gain on the C VI 182 ÅTransition in a Radiation-Cooled Selenium/Formvar Plasma,” Opt. Commun. **54**, 289–294 (1985).

329. G. F. Albrecht, M. T. Gruneisen, and D. Smith, “An Active Mode-Locked Q-Switched Oscillator Using Nd^{3+} Doped Glass as the Active Medium,” IEEE J. Quantum Electron. **QE-21**, 1189–1194 (1985).

328. T. Sizer II, “Fast and Flexible Forth Programming in a Femtosecond Laser Lab,” J. Forth Appl. & Res. **3**, 25–41 (1985).

327. R. L. McCrory, “Inertial Fusion at a Critical Juncture,” editorial, Laser Focus/Electro-Optics, September 1985, 14.

326. K. A. Tanaka, B. Boswell, R. S. Craxton, L. M. Goldman, F. Guglielmi, W. Seka, R. W. Short, and J. M. Soures, “Brillouin Scattering, Two-Plasmon Decay, and Self-Focusing in Underdense Ultraviolet Laser-Produced Plasmas,” Phys. Fluids **28**, 2910–2914 (1985).

325. P. Bado and M. Bouvier, “Multikilohertz Pockels Cell Driver,” Rev. Sci. Instrum. **56**, 1744–1745 (1985).

324. W. Seka, B. B. Afeyan, R. Boni, L. M. Goldman, R. W. Short, K. Tanaka, and T. W. Johnston, “Diagnostic Value of Odd-Integer Half-Harmonic Emission from Laser-Produced Plasmas,” Phys. Fluids **28**, 2570–2579 (1985).

323. C. J. McKinstrie and A. Simon, "Nonlinear Saturation of Stimulated Raman Scattering in a Collisional Homogeneous Plasma," Phys. Fluids **28**, 2602–2613 (1985). (See LLE Lab Report #166.)

322. R. L. McCrory, O. Barnouin, R. S. Craxton, J. Delettrez, R. Epstein, L. Forsley, L. M. Goldman, R. J. Hutchison, R. L. Keck, H. Kim, W. Lampeter, S. A. Letzring, R. S. Marjoribanks, P. McKenty, M. C. Richardson, W. Seka, R. W. Short, A. Simon, S. Skupsky, J. M. Soures, K. Swartz, K. Tanaka, C. Verdon, and B. Yaakobi, "Short Wavelength, Direct Drive Laser Fusion Experiments at the Laboratory for Laser Energetics," in *Plasma Physics and Controlled Nuclear Fusion Research-1984* (IAEA, Vienna, 1985), Vol. 3, pp. 37–48.

321. K. E. Meyer and G. A. Mourou, "Two-Dimensional E-Field Mapping with Subpicosecond Temporal Resolution," Electron. Lett. **21**, 568–569 (1985).

320. W. E. Behring, J. F. Seely, S. Goldsmith, L. Cohen, M. Richardson, and U. Feldman, "Transitions of the Type 2*s*-2*p* in Highly Ionized Cu, Zn, Ga, and Ge," J. Opt. Soc. Am. B **2**, 886–890 (1985).

319. R. L. McCrory, "Progress and Directions in Inertial Fusion - Panel Discussion," J. Fusion Energy **4**, 118–120 (1985).

318. B. A. Brinker, "Summary Abstract: Microradiographic Self-Imaging of DT Filled Inertial Fusion Targets," J. Vac. Sci. Technol. A **3**, 1269 (1985).

317. F. Guglielmi, "Summary Abstract: Low Density Foam for Self-Focusing Inertial Fusion Targets," J. Vac. Sci. Technol. A **3**, 1208–1209 (1985).

316. S. G. Noyes and H. Kim, "Aluminum/Aluminum-Nitride Sputter Deposition on the Inertial Fusion Target Using the Pulsed-Gas Process," J. Vac. Sci. Technol. A **3**, 1201-1203 (1985).

315. H. Kim and M. D. Wittman, "X-Ray Microradiography of Inertial Fusion Targets Using a Laser-Produced Plasma as an X-Ray Source," J. Vac. Sci. Technol. A **3**, 1262–1265 (1985).

314. N. D. Delamater, C. F. Hooper, Jr., R. F. Joyce, L. A. Woltz, N. M. Ceglio, R. L. Kauffman, R. W. Lee, and M. C. Richardson, "Opacity Effects on Hydrogenlike X-Ray Lines Emitted from Laser-Driven Implosions," Phys. Rev. A **31**, 2460–2463 (1985).

313. T. G. Dziura and D. G. Hall, "A Semiclassical Theory of Bistable Semiconductor Lasers including Radial Mode Variation," Phys. Rev. A **31**, 1551–1557 (1985).

312. D. R. Dykaar, T. Y. Hsiang, and G. A. Mourou, "An Application of Picosecond Electro-Optic Sampling to Superconducting Electronics," IEEE Trans. Magn. **MAG-21**, 230–233 (1985).

311. M. C. Richardson, R. S. Craxton, J. Delettrez, R. L. Keck, R. L. McCrory, W. Seka, and J. M. Soures, "Absorption Physics at 351 nm in Spherical Geometry," Phys. Rev. Lett. **54**, 1656–1659 (1985).

310. F. Guglielmi, "Fabrication of Polymeric Microballoons for Ablative Inertial Fusion Targets," J. Vac. Sci. Technol. A **3**, 1274–1276 (1985).

309. H. Kim, S. D. Jacobs, and K. A. Cerqua, "Liquid-Crystal Laser-Blocking Filters," in *Optics in Modern Science and Technology* (13th Congress of the International Commission for Optics, Sapporo, Japan, 1984), pp. 39–40.

308. K. Tanaka, B. Boswell, R. S. Craxton, L. M. Goldman, M. C. Richardson, W. Seka, R. W. Short, and J. M. Soures, "Self-Focusing in Underdense Ultraviolet Laser-Produced Plasmas," J. Opt. Soc. Am. B **1**, 480 (1984).

307. W. Seka, R. W. Short, L. M. Goldman, S. Letzring, M. C. Richardson, J. M. Soures, K. Tanaka, R. S. Craxton, J. Delettrez, R. Boni, and D. Quick, "Half-Integer Harmonic Emission from Laser Plasmas as a Coronal Temperature Diagnostic," J. Opt. Soc. Am. B **1**, 480–481 (1984).

306. A. Schmid, D. Smith, M. Guardalben, and J. Abate, "Photothermal Deflection Analysis of UV Optical Thin Films," Proc. SPIE **476**, 136–142 (1984).

305. M. C. Richardson, O. Barnouin, R. S. Craxton, J. Delettrez, R. L. Keck, R. S. Marjoribanks, W. Seka, J. M. Soures, and B. Yaakobi, "Absorption Physics at 351 nm in Spherical Geometry," J. Opt. Soc. Am. B **1**, 469–470 (1984).

304. M. A. Loudiana, A. Schmid, J. T. Dickinson, and E. J. Ashley, "The Chemical Sputtering of Silica by Ar^+ Ions and XeF_2," Surf. Sci. **141**, 409–416 (1984).

303. R. Bingham, R. Short, E. Williams, D. Villeneuve, and M. C. Richardson, "The Filamentation Instability at Short Wavelengths," Plasma Phys. Control. Fusion **26**, 1077–1082 (1984).

302. G. J. Linford, B. C. Johnson, J. S. Hildum, W. E. Martin, K. Snyder, R. D. Boyd, W. L. Smith, C. L. Vercimak, D. Eimerl, J. T. Hunt, W. Seka, R. S. Craxton, S. D. Jacobs, L. D. Lund, R. L. McCrory, and J. M. Soures, "Large Aperture Harmonic Conversion Experiments at LLNL: Comments," Appl. Opt. **22**, 1957–1958 (1983).

301. R. Bossert, S. D. Jacobs, and L. Lund, "Monolithic Cell for Frequency Conversion," in *14th Annual Symposium on Optical Materials for High Power Lasers* (National Bureau of Standards, Washington, DC, 1984), Vol. 669, p. 118. (See LLE Lab Report #141.)

300. J. A. Abate, R. Roides, S. D. Jacobs, W. Piskorowski, and T. Chipp, "Laser Damage Thresholds of Optical Coatings at 351 nm," in *14th Annual Symposium on Optical Materials for High Power Lasers* (National Bureau of Standards, Washington, DC, 1984), Vol. 669, p. 282. (See LLE Lab Report #142.)

299. M. C. Richardson, S. Skupsky, J. Kelly, L. Iwan, R. Hutchison, R. Peck, R. L. McCrory, and J. M. Soures, "Laser Fusion Target Irradiation Uniformity with the 24-Beam OMEGA Facility," Proc. SPIE **380**, 473–478 (1983).

298. M. C. Richardson, S. A. Letzring, W. Friedman, and G. Gregory, "Time Resolved X-Ray Photography of Uniformly Irradiated Spherical Targets," Proc. SPIE **427**, 91–96 (1983).

297. I. N. Duling III, T. Norris, T. Sizer II, P. Bado, and G. A. Mourou, "Kilohertz Synchronous Amplification of 85-Femtosecond Optical Pulses," J. Opt. Soc. Am. B **2**, 616–618 (1985).

296. T. Norris, T. Sizer II, and G. Mourou, "Generation of 85-fsec Pulses by Synchronous Pumping of a Colliding-Pulse Mode-Locked Dye Laser," J. Opt. Soc. Am. B **2**, 613–615 (1985).

295. B. Yaakobi, O. Barnouin, J. Delettrez, L. M. Goldman, R. Marjoribanks, R. L. McCrory, M. C. Richardson, and J. M. Soures, "Thermal Transport Measurements in Six-Beam, Ultraviolet Irradiation of Spherical Targets," J. Appl. Phys. **57**, 4354–4359 (1985).

294. H. L. Helfer, R. L. McCrory, and H. M. Van Horn, "Further Monte Carlo Calculations for the Classical One-Component Plasma in the Range 100 $\leq\Gamma\leq$ 160: The FCC Lattice," J. Stat. Phys. **37**, 577–588 (1984).

293. C. Pruitt, "Local Definitions," Forth Dimensions **6**, 16–17 (1985).

292. L. P. Forsley, "A Review of RISC and Forth Machine Literature," J. Forth Appl. & Res. **2**, 85–88 (1984).

291. C. A. Hanzlik, W. H. Knox, T. M. Nordlund, R. Hilf, and S. L. Gibson, "Picosecond Fluorescence of Hematoporphyrin Derivative, Its Components and Related Porphyrins," in *Porphyrin Localization and Treatment of Tumors* (Alan R. Liss, Inc., New York, 1984), pp. 201–210.

290. R. D. Frankel and J. M. Forsyth, "Time-Resolved X-Ray Diffraction Study of Photostimulated Purple Membrane," Biophys. J. **47**, 387–393 (1985).

289. G. Mourou, W. H. Knox, and S. Williamson, "High-Power Picosecond Switching in Bulk Semiconductors," in *Picosecond Optoelectronic Devices: Chapter 7* (Academic Press, New York, 1984), pp. 219–248.

288. K. Tanaka, L. M. Goldman, W. Seka, R. W. Short, and E. A. Williams, "Spectroscopic Study of Scattered Light at Around the Fundamental Wavelength in UV Laser-Produced Plasmas," Phys. Fluids **27**, 2960–2965 (1984).

287. I. N. Duling III and M. G. Raymer, "Time-Dependent Semiclassical Theory of Gain-Coupled Distributed Feedback Lasers," IEEE J. Quantum Electron. **QE-20**, 1202–1207 (1984).

286. J. M. Soures, Review of *The High-Power Iodine Laser*, G. Brederlow, E. Fill, and K. J. Witte (Springer-Verlag, Berlin, 1983), IEEE J. Quantum Electron. **QE-20**, 1098 (1984).

285. A. Simon and R. W. Short, "New Model of Raman Spectra in Laser-Produced Plasma," Phys. Rev. Lett. **53**, 1912–1914 (1984).

284. C. J. McKinstrie, A. Simon, and E. A. Williams, "Nonlinear Saturation of Stimulated Raman Scattering in an Homogeneous Plasma," Phys. Fluids **27**, 2738–2743 (1984). (See LLE Lab Report #155.)

283. R. L. Keck, L. M. Goldman, M. C. Richardson, W. Seka, and K. Tanaka, "Observations of High-Energy Electron Distributions in Laser Plasmas," Phys. Fluids **27**, 2762–2766 (1984).

282. B. Yaakobi, "X-Ray Lithography Using Laser Plasma as a Source," Solid State Technol. **27**, 239–240 (1984).

281. J. P. Matte, T. W. Johnston, J. Delettrez, and R. L. McCrory, "Electron Heat Flow with Inverse Bremsstrahlung and Ion Motion," Phys. Rev. Lett. **53**, 1461–1464 (1984).

280. M. Strauss, G. Hazak, D. Shvarts, and R. S. Craxton, "Magnetic Field Effects on Electron Heat Transport in Laser-Produced Plasmas," Phys. Rev. A **30**, 2627–2637 (1984).

279. G. A. Mourou and K. E. Meyer, "Subpicosecond Electro-Optic Sampling Using Coplanar Strip Transmission Lines," Appl. Phys. Lett. **45**, 492–494 (1984).

278. S. Kacenjar, L. M. Goldman, A. Entenberg, and S. Skupsky, "$\langle \rho R \rangle$ Measurements in Laser-Produced Implosions Using Elastically Scattered Ions," J. Appl. Phys. **56**, 2027-2032 (1984).

277. W. Seka, E. A. Williams, R. S. Craxton, L. M. Goldman, R. W. Short, and K. Tanaka, "Convective Stimulated Raman Scattering Instability in UV Laser Plasmas," Phys. Fluids **27**, 2181–2186 (1984).

276. N. S. Murthy and H. Kim, "Molecular Packing in Alkylated and Chlorinated Poly-*p*-xylylenes," Polymer **25**, 1093–1096 (1984).

275. J. M. Forsyth and R. D. Frankel, "Experimental Facility for Nanosecond Time-Resolved, Low Angle X-Ray Diffraction Experiments Using a Laser-Produced Plasma Source," Rev. Sci. Instrum. **55**, 1235–1242 (1984).

274. K. Tanaka, W. Seka, L. M. Goldman, M. C. Richardson, R. W. Short, J. M. Soures, and E. A. Williams, "Evidence of Parametric Instabilities in Second Harmonic Spectra from 1054 nm Laser-Produced Plasmas," Phys. Fluids **27**, 2187–2190 (1984).

273. W. Knox, G. Mourou, and T. M. Nordlund, "Applications of the Jitter-Free Signal Averaging Streak Camera in Solid State Physics, Biophysics, and Chemistry," Appl. Phys. B **28**, 174–175 (1982).

272. D. Agassi, "Phenomenological Model for Picosecond-Pulse Laser Annealing of Semiconductors," J. Appl. Phys. **55**, 4376–4383 (1984).

271. S. Williamson, G. Mourou, and J. C. M. Li, "Time-Resolved Laser-Induced Phase Transformation in Aluminum," Phys. Rev. Lett. **52**, 2364–2367 (1984).

270. R. S. Craxton and R. L. McCrory, "Hydrodynamics of Thermal Self-Focusing in Laser Plasmas," J. Appl. Phys. **56**, 108–117 (1984).

269. I. S. Goldstein and F. Kalk, "Oxygen Plasma Etching of Thick Polymer Layers," J. Vac. Sci. Technol. **19**, 743–747 (1981).

268. H. Kim, T. F. Powers, and J. F. Mason, "Inertial Fusion Target Fabrication Using Polystyrene Mandrels," J. Vac. Sci. Technol. A **2**, 649–652 (1984).

267. B. Yaakobi, H. Kim, J. M. Soures, H. W. Deckman, and J. Dunsmuir, "Summary Abstract: Submicron X-Ray Lithography Using Laser Produced Plasma as a Source," J. Vac. Sci. Technol. A **2**, 367–368 (1984).

266. J. M. Soures, R. J. Hutchison, S. D. Jacobs, L. D. Lund, R. L. McCrory, and M. C. Richardson, "OMEGA: A Short-Wavelength Laser for Fusion Experiments," in *Proceedings of the 10th Symposium on Fusion Engineering* (IEEE, Philadelphia, 1983).

265. R. W. Short, W. Seka, K. Tanaka, and E. A. Williams, "Two-Plasmon Decay and Three-Halves Harmonic Generation in Filaments in a Laser-Produced Plasma," Phys. Rev Lett. **52**, 1496–1499 (April 1984). (See LLE Lab Report #147.)

264. J. M. Forsyth and J. Wilson, "Gas Lasers," in *Applied Optics and Optical Engineering: Chapter 2* (Academic Press, New York, 1980), Vol. 6, pp. 29–52.

263. G. Bekefi, C. Deutsch, and B. Yaakobi, "Spectroscopic Diagnostics of Laser Plasmas," in *Principles of Laser Plasmas*, edited by G. Bekefi (Wiley, New York, 1976), pp. 549–641.

262. J. A. Valdmanis, G. Mourou, and C. W. Gabel, "Subpicosecond Electrical Sampling," Proc. SPIE **439**, 142–148 (1983).

261. J. A. Valdmanis, G. A. Mourou, and C. W. Gabel, "Picosecond and Subpicosecond Optoelectronics Measurements of Future High Speed Electronic Devices," in *Proceedings of the International Electron Devices Meeting* (IEEE, Philadelphia, 1983), pp. 597–600.

260. D. M. Villeneuve, R. L. Keck, B. B. Afeyan, W. Seka, and E. A. Williams, "Production of Hot Electrons by Two-Plasmon Decay Instability in UV Laser Plasmas," Phys. Fluids **27**, 721–725 (1984).

259. B. Yaakobi and A. J. Burek, "Crystal Diffraction Systems for X-Ray Spectroscopy, Imaging and Interferometry of Laser Fusion Targets," IEEE J. Quantum Electron. **QE-19**, 1841–1854 (1983).

258. M. C. Richardson, R. S. Marjoribanks, S. A. Letzring, J. M. Forsyth, and D. M. Villeneuve, "Spectrally Discriminating Time-Resolved and Space-Resolved X-Ray Plasma Diagnostics," IEEE J. Quantum Electron. **QE-19**, 1861–1869 (1983).

257. B. Yaakobi, J. Delettrez, L. M. Goldman, R. L. McCrory, R. Marjoribanks, M. C. Richardson, D. Shvarts, S. Skupsky, J. M. Soures, C. Verdon, D. M. Villeneuve,

T. Boehly, R. Hutchison, and S. Letzring, "Thermal Transport Measurements in 1.05 μm Laser Irradiation of Spherical Targets," Phys. Fluids **27**, 516–526 (1984).

256. P. A. Jaanimagi and M. C. Richardson, "Streak Camera for Picosecond X-Ray Diagnostics," Rev. Sci. Instrum. **54**, 1095–1099 (1983).

255. J. A. Valdmanis, G. Mourou, and C. W. Gabel, "Electrical Transient Sampling System with Two Picosecond Resolution," in *Picosecond Phenomena III*, edited by K. B. Eisenthal (Springer-Verlag, New York, 1982), pp. 101–102.

254. S. Williamson and G. Mourou, "Electron Diffraction in the Picosecond Domain," in *Picosecond Phenomena III*, edited by K. B. Eisenthal (Springer-Verlag, New York, 1982), pp. 107–108.

AND

J. D. Kafka, T. Sizer II, I. N. Duling, C. W. Gabel, and G. Mourou, "Synchronous Amplification of 70 fsec Pulses Using a Frequency-Doubled Nd:YAG Pumping Source," in *Picosecond Phenomena III*, edited by K. B. Eisenthal (Springer-Verlag, New York, 1982), pp. 108–111.

253. W. Knox, T. M. Nordlund, and G. Mourou, "Jitter-Free Streak Camera System," in *Picosecond Phenomena III*, edited by K. B. Eisenthal (Springer-Verlag, New York, 1982), pp. 98–100.

252. T. E. Orlowski, B. A. Weinstein, W. H. Knox, T. M. Nordlund, and G. Mourou, "Picosecond Radiative and Nonradiative Recombination in Amorphous As_2S_3," in *Picosecond Phenomena III*, edited by K. B. Eisenthal (Springer-Verlag, New York, 1982), pp. 395–398.

251. B. Yaakobi, J. Delettrez, R. L. McCrory, R. Marjoribanks, M. C. Richardson, D. Shvarts, J. M. Soures, C. Verdon, D. M. Villeneuve, T. Boehly, R. Hutchison, and S. Letzring, "Thermal Transport Measurements in 1.05 μm Laser Irradiation of Spherical Targets," in *Laser Interaction and Related Plasma Phenomena* (Plenum Press, New York, 1984), Vol. 6, pp. 731–750. (See LLE Lab Report #136.)

250. J. A. Abate and R. Roides, "Spatially Resolved Absorption and Detection of Microscopic Impurities in Optical Thin Films by Photothermal Detection," J. Phys. (Paris) **44**, C6-497–C6-502 (1983).

249. S. Skupsky, R. L. McCrory, R. S. Craxton, J. Delettrez, R. Epstein, K. Lee, and C. Verdon, "Uniformity of Energy Deposition for Laser Driven Fusion," in *Laser Interaction and Related Plasma Phenomena* (Plenum Press, New York, 1984), Vol. 6, pp. 751–774.

248. M. C. Richardson, T. R. Boehly, B. A. Brinker, T. C. Bristow, R. S. Craxton, J. A. Delettrez, G. Enright, A. Entenberg, W. Friedman, L. M. Goldman, J. Hoose, R. J. Hutchison, L. Iwan, S. Kacenjar, K. Lee, S. A. Letzring, L. D. Lund, R. S. Marjoribanks, R. L. McCrory, J. M. Miller, J. Rizzo, W. D. Seka, S. Skupsky, J. M. Soures, C. P. Verdon, D. M. Villeneuve, E. A. Williams, and B. Yaakobi, "Progress Toward Direct

Drive Laser Fusion," *Laser Interaction and Related Plasma Phenomena* (Plenum Press, New York, 1984), Vol. 6, pp. 903–925. (See LLE Lab Report #140.)

247. T. C. Bristow, M. J. Lubin, J. M. Forsyth, E. B. Goldman, and J. M. Soures, "High-Intensity X-Ray Spectra and Stimulated Emission from Laser Plasmas," Opt. Commun. **5**, 315–318 (1972).

246. J. A. Valdmanis, G. A. Mourou, and C. W. Gabel, "Subpicosecond Electrical Sampling," IEEE J. Quantum Electron. **QE-19**, 664–667 (1983).

245. W. Knox and L. Forsley, "Data Acquisition System for a Jitter-Free Signal Averaging Streak Camera," in *ACS Symposium Series, #236, Multichannel Image Detectors*, edited by Y. Talmi, **2** (American Chemical Society, 1983), pp. 221–231.

244. S. A. Letzring, E. I. Thorsos, W. D. Friedman, W. Seka, and J. E. Rizzo, "An Absolutely Timed X-Ray Streak Camera for Laser Fusion Experiments," J. Appl. Phys. **54**, 6302–6306 (1983).

243. I. Lubezky and A. Lubezky, "Practical Design of Double-Layer Antireflective Coatings for High-Index Substrates," Opt. Eng. **22**, 753–755 (1983).

242. J. Delettrez, A. Entenberg, Y. Gazit, D. Shvarts, J. Virmont, T. Bristow, J. M. Soures, and A. Bennish, "Time Decay of Electric Fields Probed by Charged Reaction Products in Six-Beam Symmetrical Implosion Experiments," Nucl. Fusion **23**, 1135–1141 (1983).

241. B. A. Weinstein, T. E. Orlowski, W. H. Knox, T. M. Nordlund, and G. Mourou, "Picosecond Luminescence and Competing Nonradiative Processes in As_2S_3 Glass," Phys. Rev. B **26**, 4777–4780 (1982).

240. A. Simon, R. W. Short, E. A. Williams, and T. Dewandre, "On the Inhomogeneous Two-Plasmon Instability," Phys. Fluids **26**, 3107–3118 (1983).

239. B. Yaakobi, H. Kim, J. M. Soures, H. W. Deckman, and J. Dunsmuir, "Submicron X-Ray Lithography Using Laser-Produced Plasma as a Source," Appl. Phys. Lett. **43**, 686–688 (1983).

238. R. W. Short and E. A. Williams, "Brillouin Scattering of Multiline Laser Light in a Flowing Plasma Corona," Phys. Fluids **26**, 2342–2344 (1983).

237. R. S. Craxton, "Interpretation of Livermore Third-Harmonic-Generation Experiments," Appl. Opt. **22**, 2739–2742 (1983).

236. M. C. Lee, I. Feng, T. G. Wang, and H. Kim, "A Technique for Thick Polymer Coating of Inertial-Confinement-Fusion Targets," J. Vac. Sci. Technol. A **1**, 886–889 (1983).

235. S. Skupsky and K. Lee, "Uniformity of Energy Deposition for Laser Driven Fusion," J. Appl. Phys. **54**, 3662–3671 (1983).

234. B. A. Brinker, J. M. Cavese, J. R. Miller, S. G. Noyes, S. Sheble, and L. T. Whitaker, "Inertial Fusion Target Mounting Methods: New Fabrication Procedures Reduce the Mounting Support Perturbation," J. Vac. Sci. Technol. A **1**, 941–944 (1983).

233. D. Glocker, "Biased Magnetron Sputtering of ICF Target Pusher Layers," J. Vac. Sci. Technol. A **1**, 877–880 (1983).

232. H. Kim, J. Mason, and J. R. Miller, "High-Z-Doped Laser Fusion Target Ablation Layers Using Metal Colloids and Metal-Substituted-Sulfonated Polystyrene," J. Vac. Sci. Technol. A **1**, 890–893 (1983).

231. T. F. Powers and J. R. Miller, "Rotational-Shearing Interferometric Characterization of Inertial Fusion Targets," J. Vac. Sci. Technol. A **1**, 945–948 (1983).

230. J. Reynolds, "Information Management Data Base for Fusion Target Fabrication Processes," J. Vac. Sci. Technol. A **1**, 937–940 (1983).

229. S. P. Sarraf, E. A. Williams, and L. M. Goldman, "Ion-Ion Two-Stream Instability in Multispecies Laser-Produced Plasma," Phys. Rev. A **27**, 2110–2113 (1983).

228. G. F. Albrecht, L. Lund, and D. Smith, "Building a Simple Reliable Low-Cost Modelocker System," Appl. Opt. **22**, 1276–1280 (1983).

227. T. Sizer II, J. D. Kafka, I. N. Duling III, C. W. Gabel, and G. A. Mourou, "Synchronous Amplification of Subpicosecond Pulses," IEEE J. Quantum Electron. **QE-19**, 506−511 (1983).

226. W. Seka, L. M. Goldman, M. C. Richardson, J. M. Soures, K. Tanaka, B. Yaakobi, R. S. Craxton, R. L. McCrory, R. Short, E. A. Williams, T. Boehly, R. Keck, and R. Boni, "Characteristics of UV-Laser-Matter Interaction," in *Plasma Physics and Controlled Nuclear Fusion Research-1982* (IAEA, Vienna, 1983), Vol. 1, pp. 131–137.

225. M. C. Richardson, T. Boehly, R. S. Craxton, J. Delettrez, G. D. Enright, A. Entenberg, R. Epstein, W. Friedman, J. Hoose, R. Hutchison, S. Kacenjar, K. Lee, S. Letzring, R. S. Marjoribanks, R. L. McCrory, J. Rizzo, W. Seka, R. Short, S. Skupsky, J. M. Soures, C. Verdon, D. M. Villeneuve, E. A. Williams, and B. Yaakobi, "Direct Drive Laser Fusion Experiments with the OMEGA Laser System," in *Plasma Physics and Controlled Nuclear Fusion Research-1982* (IAEA, Vienna, 1983), Vol. 1, pp. 477–485.

224. M. Lapp, C. M. Penney, and L. M. Goldman, "Vibrational Raman Scattering Temperature Measurements," Opt. Commun. **9**, 195–200 (1973).

223. B. Yaakobi and L. M. Goldman, "Laser Compression Studies with Neon-Filled Glass Microballoons," Phys. Rev. Lett. **37**, 899–902 (1976).

222. R. D. Frankel and J. M. Forsyth, "Application of Nanosecond X-Ray Diffraction Techniques to Bacteriorhodopsin," in *Methods in Enzymology 88: Biomembranes Part 1, Visual Pigments and Purple Membranes II*, edited by L. Parker (Academic Press, New York, 1982), pp. 276–281.

221. K. K. Lee, "Comments on 'Transverse Electromagnetic Waves with $\vec{E}\|\vec{B}$'," Phys. Rev. Lett. **50**, 138 (1983).

220. R. S. Marjoribanks, M. C. Richardson, J. Delettrez, S. Letzring, W. Seka, and D. M. Villeneuve, "Time-Resolved X-Ray Spectrometry of UV Laser Produced Plasmas," Opt. Commun. **44**, 113–116 (1982).

219. S. D. Jacobs, Y. Asahara, and T. Izumitani, "Optical Glass Wave Plates," Appl. Opt. **21**, 4526–4532 (1982).

218. R. W. Short, R. Bingham, and E. A. Williams, "Filamentation of Laser Light in Flowing Plasmas," Phys. Fluids **25**, 2302–2303 (1982).

217. G. M. Weyl, D. I. Rosen, J. Wilson, and W. Seka, "Laser-Induced Breakdown of Argon at 0.35 μm," Phys. Rev. A **26**, 1164–1167 (1982).

216. B. Yaakobi, D. M. Villeneuve, M. C. Richardson, J. M. Soures, R. Hutchison, and S. Letzring, "X-Ray Spectroscopy Measurements of Laser Compressed, Argon Filled Shells," Opt. Commun. **43**, 343–346 (1982).

215. S. Kacenjar, S. Skupsky, A. Entenberg, L. Goldman, and M. Richardson, "Direct Measurement of the Fuel Density-Radius Product in Laser-Fusion Experiments," Phys. Rev. Lett. **49**, 463–467 (1982).

214. C. P. Verdon, R. L. McCrory, R. L. Morse, G. R. Baker, D. I. Meiron, and S. A. Orszag, "Nonlinear Effects of Multifrequency Hydrodynamic Instabilities on Ablatively Accelerated Thin Shells," Phys. Fluids **25**, 1653–1674 (1982).

213. S. Williamson, G. F. Albrecht, and G. Mourou, "Laser Triggered Cr:GaAs HV Sparkgap with High Trigger Sensitivity," Rev. Sci. Instrum. **53**, 867–870 (1982).

212. H. Kim, T. Powers, and J. Mason, "Real-Time Parylene Coating Thickness Measurement Using Optical Reflectometry," J. Vac. Sci. Technol. **21**, 900–901 (1982).

211. J. A. Valdmanis, G. Mourou, and C. W. Gabel, "Picosecond Electro-Optic Sampling System." Appl. Phys. Lett. **41**, 211–212 (1982).

210. G. Mourou, W. Knox, and S. Williamson, "Advances in Picosecond Optoelectronics," Proc. SPIE **322**, 107−114 (1982).

209. G. Mourou and S. Williamson, "Picosecond Electron Diffraction," Appl. Phys. Lett. **41**, 44–45 (1982).

208. S. D. Jacobs, "Liquid Crystals as Large Aperture Waveplates and Circular Polarizers," Proc. SPIE **307**, 98–105 (1981).

207. K. Tanaka, L. M. Goldman, W. Seka, M. C. Richardson, J. M. Soures, and E. A. Williams, "Stimulated Raman Scattering from UV-Laser-Produced Plasmas," Phys. Rev. Lett. **48**, 1179–1182 (1982).

206. G. Mourou, W. Knox, and S. Williamson, "Picosecond High-Power Switching and Applications," Laser Focus, 97–106 (1982).

205. R. E. Hopkins, "Geometrical Optics in a Laser Laboratory," Proc. SPIE **288**, 568–579 (1981).

204. B. Yaakobi, J. Delettrez, L. M. Goldman, R. L. McCrory, W. Seka, and J. M. Soures, "Preheat Measurements in UV-Laser Target Interaction," Opt. Commun. **41**, 355–359 (1982). (See LLE Lab Report #127.)

203. B. A. Brinker and J. R. Miller, "Capillary Gas Filling of Inertial Fusion Targets," J. Vac. Sci. Technol. **20**, 1079–1081 (1982).

202. T. F. Powers, "Improved Nonconcentricity Characterization of Transparent Laser Fusion Targets by Interferometry," J. Vac. Sci. Technol. **20**, 1355–1358 (1982).

201. D. A. Glocker, J. P. Drumheller, and J. R. Miller, "Ion Beam Sputter Deposition onto Levitated and Stalk Mounted Laser Fusion Targets," J. Vac. Sci. Technol. **20**, 1331–1335 (1982).

200. D. Glocker and R. Wiseman, "A New Method for the Batch Production of Micro-Fresnel Zone Plates," J. Vac. Sci. Technol. **20**, 1098–1100 (1982).

199. G. F. Albrecht, "Temporal Shape Analysis of Nd:YLiF Active Modelocked/*Q*-Switched Oscillator," Opt. Commun. **41**, 287–291 (1982).

198. H. W. Deckman, J. H. Dunsmuir, G. M. Halpern, and J. P. Drumheller, "A Drill, Fill, and Plug Technique for Fabricating Laser Fusion Targets," J. Vac. Sci. Technol. **18**, 1258–1261 (1981).

197. G. A. Mourou and T. Sizer II, "Generation of Pulses Shorter than 70 fs with a Synchronously-Pumped CW Dye Laser," Opt. Commun. **41**, 47–48 (1982).

196. M.-S. Chou and G. A. Zawadzkas, "Long-Pulse N_2 UV Lasers at 357.7, 380.5, and 405.9 nm in N_2/Ar/Ne/He Mixture," IEEE J. Quantum Electron. **QE-17**, 77–81 (1981).

195. (Same as reprint #152.)

194. J. Varon and I. S. Goldstein, "Molecular Beam Levitator for Sputter Coating of Microspheres," Rev. Sci. Instrum. **52**, 975–978 (1981).

193. D. G. Peiffer, T. J. Corley, G. M. Halpern, and B. A. Brinker, "Utilization of Polymeric Materials in Laser Fusion Target Fabrication," Polymer **22**, 450–460 (1981).

192. W. Seka, R. S. Craxton, J. Delettrez, L. Goldman, R. Keck, R. L. McCrory, D. Shvarts, J. M. Soures, and R. Boni, "Measurements and Interpretation of the Absorption of 0.35 μm Laser Radiation on Planar Targets," Opt. Commun. **40**, 437–440 (1982). (See LLE Lab Report #126.)

191. G. Albrecht, A. Antonetti, and G. Mourou, "Temporal Shape Analysis of Nd^{3+}: YAG Active Passive Mode-Locked Pulses," Opt. Commun. **40**, 59–62 (1981).

190. J. A. Abate, "Flashlamp-Induced Thermal Distortion in an Active-Mirror Nd:Glass Laser Amplifier," Proc. SPIE **293**, 114–125 (1981).

189. Y. Conturie, B. Yaakobi, U. Feldman, G. A. Doschek, and R. D. Cowan, "Observation of New Lines of Xe XLIV, XLV, XLVI, and XLVII in the Range 2.5–3.0 Å from Laser-Imploded Targets," J. Opt. Soc. Am. **71**, 1309–1314 (1981).

188. T. Sizer II, J. D. Kafka, A. Krisiloff, and G. Mourou, "Generation and Amplification of Sub-Picosecond Pulses Using a Frequency-Doubled Neodymium YAG Pumping Source," Opt. Commun. **39**, 259–262 (1981).

187. T. C. Bristow, R. S. Craxton, J. Delettrez, A. Entenberg, J. Forsyth, W. Friedman, L. Goldman, F. Kalk, S. Letzring, M. Lubin, R. L. McCrory, J. Rizzo, W. Seka, S. Skupsky, J. M. Soures, E. Thorsos, C. P. Verdon, B. Yaakobi, H. Deckman, G. Halpern, and D. Peiffer, "Symmetrically Illuminated Laser Fusion Implosion Experiments at the Laboratory for Laser Energetics," in *Plasma Physics and Controlled Nuclear Fusion Research 1980* (IAEA, Vienna, 1981), Vol. 2, pp. 25–30.

186. T. M. Nordlund and W. H. Knox, "Lifetime of Fluorescence from Light-Harvesting Chlorophyll a/b Proteins: Excitation Intensity Dependence," Biophys. J. **36**, 193–201 (1981).

185. M. A. True, J. R. Albritton, and E. A. Williams, "Fast Ion Production by Suprathermal Electrons in Laser Fusion Plasmas," Phys. Fluids **24**, 1885–1893 (1981).

184. B. Yaakobi, T. Boehly, P. Bourke, Y. Conturie, R. S. Craxton, J. Delettrez, J. M. Forsyth, R. D. Frankel, L. M. Goldman, R. L. McCrory, M. C. Richardson, W. Seka, D. Shvartz, and J. M. Soures, "Characteristics of Target Interaction with High Power UV Laser Radiation," Opt. Commun. **39**, 175–179 (1981).

183. J. A. Boles, D. Pessel, and L. P. Forsley, "OMEGA Automated Laser Control and Data Acquisition," IEEE J. Quantum Electron. **QE-17**, 1903–1908 (1981).

182. R. S. Craxton, S. D. Jacobs, J. E. Rizzo, and R. Boni, "Basic Properties of KDP Related to the Frequency Conversion of 1 μm Laser Radiation," IEEE J. Quantum Electron. **QE-17**, 1782–1786 (1981).

181. R. S. Craxton, "High Efficiency Frequency Tripling Schemes for High-Power Nd:Glass Lasers," IEEE J. Quantum Electron. **QE-17**, 1771–1782 (1981).

180. D. C. Brown, J. H. Kelly, and J. A. Abate, "Active-Mirror Amplifiers: Progress and Prospects," IEEE J. Quantum Electron. **QE-17**, 1755–1765 (1981).

179. G. F. Albrecht and G. Mourou, "A Long-Pulse/Short-Pulse Synchronization Scheme Using a Regenerative Amplifier and High-Voltage Semiconductor Switching," IEEE J. Quantum Electron. **QE-17**, 1709–1712 (1981).

178. W. Seka, J. M. Soures, S. D. Jacobs, L. D. Lund, and R. S. Craxton, "GDL: A High-Power 0.35 μm Laser Irradiation Facility," IEEE J. Quantum Electron. **QE-17**, 1689–1693 (1981).

177. J. Bunkenburg, J. Boles, D. C. Brown, J. Eastman, J. Hoose, R. Hopkins, L. Iwan, S. D. Jacobs, J. H. Kelly, S. Kumpan, S. Letzring, D. Lonobile, L. D. Lund, G. Mourou, S. Refermat, W. Seka, J. M. Soures, and K. Walsh, "The OMEGA High-Power Phosphate-Glass System: Design and Performance," IEEE J. Quantum Electron. **QE-17**, 1620–1628 (1981).

176. G. F. Albrecht and J. Bunkenburg, "Active-Passive Mode-Locked Oscillator Generating Nanosecond Pulses," Opt. Commun. **38**, 377–380 (1981).

175. S. P. Sarraf and L. M. Goldman, "Effect of Prepulse on Nonthermal (>10 keV/Z) Ions in Laser-Produced Plasmas," Phys. Rev. A **24**, 1021–1025 (1981).

174. R. W. Short and E. A. Williams, "Enhanced Specular Reflection from a Laser-Produced Plasma Corona," Phys. Rev. Lett. **47**, 337–340 (1981).

173. J. Wilson, "Nonfusion Applications for Terawatt Lasers," Laser Focus, 47–50 (1981).

172. D. Shvarts, J. Delettrez, R. L. McCrory, and C. P. Verdon, "Self-Consistent Reduction of the Spitzer-Harm Electron Thermal Heat Flux in Steep Temperature Gradients in Laser-Produced Plasmas," Phys. Rev. Lett. **47**, 247–250 (1981).

171. D. A. Glocker, "A Proposed Design for Multishell Cryogenic Laser Fusion Targets Using Superconducting Levitation," Appl. Phys. Lett. **39**, 478–479 (1981).

170. G. Mourou, C. V. Stancampiano, A. Antonetti, and A. Orszag, "Picosecond Microwave Pulses Generated with a Subpicosecond Laser-Driven Semiconductor Switch," Appl. Phys. Lett. **39**, 295–296 (1981).

169. B. Yaakobi, P. Bourke, Y. Conturie, J. Delettrez, J. M. Forsyth, R. D. Frankel, L. M. Goldman, R. L. McCrory, W. Seka, J. M. Soures, A. J. Burek, and R. E. Deslattes, "High X-Ray Conversion Efficiency with Target Irradiation by a Frequency Tripled Nd:Glass Laser," Opt. Commun. **38**, 196–200 (1981).

168. F. Kalk and D. Glocker, "Thick Zone Plate Fabrication Using Reactive Sputter Etching," J. Vac. Sci. Technol. **19**, 170–172 (1981).

167. R. L. McCrory, L. Montierth, R. L. Morse, and C. P. Verdon, "Taylor Instability in Fusion Targets," in *Laser Interaction and Related Plasma Phenomena* (Plenum Press, New York, 1981), Vol. 5, pp. 713–742.

166. J. M. Soures, T. C. Bristow, H. Deckman, J. Delettrez, A. Entenberg, W. Friedman, J. Forsyth, Y. Gazit, G. Halpern, F. Kalk, S. Letzring, R. McCrory, D. Peiffer, J. Rizzo, W. Seka, S. Skupsky, E. Thorsos, B. Yaakobi, and T. Yamanaka, "A Review of High Density, Laser Driven, Implosion Experiments at the Laboratory for Laser Energetics," in *Laser Interaction and Related Plasma Phenomena* (Plenum Press, New York, 1981), Vol. 5, pp. 463–481.

165. S. Kacenjar, L. Goldman, and A. Entenberg, “Copper Activation Counter Calibration Using Solid State Track Detectors,” Rev. Sci. Instrum. **52**, 831–834 (1981).

164. S. Skupsky and S. Kacenjar, “Measuring Fuel ρR for Inertial Fusion Experiments Using Neutron Elastic-Scattering Reactions,” J. Appl. Phys. **52**, 2608–2613 (1981).

163. B. Yaakobi, S. Skupsky, R. L. McCrory, C. F. Hooper, H. Deckman, P. Bourke, and J. M. Soures, “X-Ray Spectroscopy of Laser Imploded Targets,” Philos. Trans. R. Soc. London, Ser. A **300**, 623–630 (1981).

162. J. H. Kelly, D. C. Brown, J. A. Abate, and K. Teegarden, “Dynamic Pumping Model for Amplifier Performance Predictions,” Appl. Opt. **20**, 1595–1605 (1981).

161. D. C. Brown, J. A. Abate, L. Lund, and J. Waldbillig, “Passively Switched Double-Pass Active Mirror System,” Appl. Opt. **20**, 1588–1594 (1981).

160. T. Sizer II, G. Mourou, and R. R. Rice, “Picosecond Dye Laser Pulses Using a CW Frequency Doubled Nd:YAG as the Pumping Source,” Opt. Commun. **37**, 207–210 (1981).

159. W. Knox and G. Mourou, “A Simple Jitter-Free Picosecond Streak Camera,” Opt. Commun. **37**, 203–206 (1981).

158. G. Mourou, C. V. Stancampiano, and D. Blumenthal, “Picosecond Microwave Pulse Generation,” Appl. Phys. Lett. **38**, 470–472 (1981).

157. T. Dewandre, J. R. Albritton, and E. A. Williams, “Doppler Shift of Laser Light Reflected from Expanding Plasmas,” Phys. Fluids **24**, 528–536 (1981).

156. J. E. Rizzo, “Laser Drilling Small Holes for X-Ray Pinhole Cameras,” Rev. Sci. Instrum. **52**, 302–303 (February 1981).

155. R. L. McCrory, L. Montierth, R. L. Morse, and C. P. Verdon, “Nonlinear Evolution of Ablation-Driven Rayleigh-Taylor Instability,” Phys. Rev. Lett. **46**, 336–339 (1981).

154. G. T. Harvey, C. W. Gabel, and G. Mourou, “Synchronization of a Mode-Locked Nd:YAG-Argon Ion Laser System,” Opt. Commun. **36**, 213–217 (1981).

153. D. H. Berwald and J. A. Maniscalco, “An Economics Method for Symbiotic Fusion-Fission Electricity Generation Systems,” Nucl. Technol./Fusion **1**, 128–136 (1981).

152. D. H. Berwald and J. A. Maniscalco, “Performance and Economics Analysis of Several Laser Fusion Breeder Fueled Electricity Generation Systems,” Nucl. Technol./Fusion **1**, 137–159 (1981).

151. J. A. Abate, L. Lund, D. Brown, S. Jacobs, S. Refermat, J. Kelly, M. Gavin, J. Waldbillig, and O. Lewis, “Active Mirror: A Large-Aperture Medium- Repetition Rate Nd:Glass Amplifier,” Appl. Opt. **20**, 351–361 (1981).

150. R. E. Turner and L. M. Goldman, "Evidence for Multiple Brillouin Modes in Laser-Plasma Backscatter Experiments," Phys. Fluids **24**, 184–185 (1981).

149. B. Yaakobi, H. Deckman, P. Bourke, S. Letzring, and J. M. Soures, "X-Ray-Absorption Fine-Structure Measurement Using a Laser-Compressed Target as a Source," Appl. Phys. Lett. **37**, 767–769 (1980).

148. K. Tanaka and L. M. Goldman, "Observations of Brillouin Sidescatter in Laser-Produced Plasmas," Phys. Rev. Lett. **45**, 1558–1561 (1980).

147. J. F. Hoose, "White Light AC Interferometry for Multiple Laser Path Length Equalization," Opt. Eng. **19**, 825–827 (1980).

146. J. H. Kelly, D. C. Brown, and K. Teegarden, "Time Resolved Spectroscopy of Large Bore Xe Flashlamps for Use in Large Aperture Amplifiers," Appl. Opt. **19**, 3817–3823 (1980).

145. J. M. Eastman, "The Scanning Fizeau Interferometer: An Automated Instrument for Characterizing Optical Surfaces," Opt. Eng. **19**, 810–814 (1980).

144. M. Stavola, G. Mourou, and W. Knox, "Picosecond Time Delay Fluorimetry Using a Jitter-Free Streak Camera," Opt. Commun. **34**, 404–408 (1980).

143. M. Stavola, M. G. Sceats, and G. Mourou, "Picosecond Switching of a Multi-Kilovolt DC Bias with Laser Activated Silicon at Low Temperature," Opt. Commun. **34**, 409–412 (1980).

142. W. Seka, S. D. Jacobs, J. E. Rizzo, R. Boni, and R. S. Craxton, "Demonstration of High Efficiency Third Harmonic Conversion of High Power Nd:Glass Laser Radiation," Opt. Commun. **34**, 469–473 (1980).

141. R. S. Craxton, "Theory of High Efficiency Third Harmonic Generation of High Power Nd:Glass Laser Radiation," Opt. Commun. **34**, 474–478 (1980).

140. B. Yaakobi, R. L. McCrory, S. Skupsky, J. A. Delettrez, P. Bourke, H. Deckman, C. F. Hooper, and J. M. Soures, "X-Ray Absorption Lines: Signature for Preheat Level in Non-Explosive Laser Implosions," Opt. Commun. **34**, 213–217 (1980). (See LLE Lab Report #104.)

139. G. Mourou, J. Bunkenburg, and W. Seka, "Electrooptic Prepulse Suppression for Fusion Laser Systems," Opt. Commun. **34**, 252–254 (1980).

138. R. L. McCrory and S. A. Orszag, "Spectral Methods for Multi-Dimensional Diffusion Problems," J. Comput. Phys. **37**, 93–112 (1980).

137. V. A. Bhagavatula, "Soft X-Ray Population Inversion in Laser Plasmas by Resonant Photoexcitation and Photon-Assisted Processes," IEEE J. Quantum Electron. **QE-16**, 603–618 (1980).

136. S. Skupsky, "High-Density Effects on Thermonuclear Ignition for Inertially Confined Fusion," Phys. Rev. Lett. **44**, 1760–1763 (1980).

135. G. Mourou and W. Knox, "A Picosecond Jitter Streak Camera," Appl. Phys. Lett. **36**, 623–626 (1980).

134. S. Skupsky, "X-Ray Line Shift as a High-Density Diagnostic for Laser-Imploded Plasmas," Phys. Rev. A **21**, 1316–1326 (1980).

133. B. Yaakobi, S. Skupsky, R. L. McCrory, C. F. Hooper, H. Deckman, P. Bourke, and J. M. Soures, "Symmetric Laser Compression of Argon-Filled Glass Shells to Densities of 4–6 g/cm^3," Phys. Rev. Lett. **44**, 1072–1075 (1980).

132. R. L. McCrory and J. Wilson, "Dense Matter in Laser Driven Fusion: Laboratory Experiments," J. Physique **41**, C2-165–C2-179 (1980).

131. W. Seka, J. Soures, O. Lewis, J. Bunkenburg, D. Brown, S. Jacobs, G. Mourou, and J. Zimmermann, "High-Power Phosphate-Glass Laser System: Design and Performance Characteristics," Appl. Opt. **19**, 409–419 (1980).

130. R. E. Turner and L. M. Goldman, "Measurements of Brillouin-Backscatter Dependence on Density-Scale Lengths Near Critical Density," Phys. Rev. Lett. **44**, 400–403 (1980).

129. R. S. Craxton and R. L. McCrory, "A Simple Rezoning Technique for Use with the Flux-Corrected Transport Algorithm," J. Comput. Phys. **33**, 432–440 (1979).

128. Y. Gazit, J. Delettrez, T. C. Bristow, A. Entenberg, and J. Soures, "Effect of Electrostatic Fields on Charged Reaction Products in Six-Beam Symmetrical Implosion Experiments," Phys. Rev. Lett. **43**, 1943–1947 (1979).

127. B. Yaakobi, R. E. Turner, H. W. Schnopper, and P. O. Taylor, "Focusing X-Ray Spectrograph for Laser Fusion Experiments," Rev. Sci. Instrum. **50**, 1609–1611 (1979).

126. K. Tanaka and E. I. Thorsos, "Search for Shell Disintegration in Laser Implosion Experiments," Appl. Phys. Lett. **35**, 853–855 (1979).

125. J. Agostinelli, G. Mourou, and C. W. Gabel, "Active Pulse Shaping in the Picosecond Domain," Appl. Phys. Lett. **35**, 731–733 (1979).

124. E. I. Thorsos, T. C. Bristow, J. A. Delettrez, J. M. Soures, and J. E. Rizzo, "Six-Beam Irradiation and Implosion of Laser Fusion Targets: Laser Focus Dependence," Appl. Phys. Lett. **35**, 598–600 (1979).

123. G. Mourou and W. Knox, "High-Power Switching with Picosecond Precision," Appl. Phys. Lett. **35**, 492–495 (1979).

122. J. Agostinelli, G. Harvey, T. Stone, and C. Gabel, "Optical Pulse Shaping with a Grating Pair," Appl. Opt. **18**, 2500–2504 (1979).

121. R. D. Frankel and J. M. Forsyth, "Nanosecond X-Ray Diffraction from Biological Samples with a Laser-Produced Plasma Source," Science **204**, 622–624 (1979).

120. W. Tsay, C. Riley, and D. O. Ham, "Thermal Enhancement of Multiple Photon Absorption by SF_6," J. Chem. Phys. **70**, 3558–3560 (1979).

119. T. Speziale and P. J. Catto, "Cold Plasma Wavebreaking in the Presence of an Electromagnetic Driver," Phys. Fluids **22**, 681–685 (1979).

118. T. 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, "Explosive-Pusher-Type Laser Compression Experiments with Neon-Filled Microballoons," in *Plasma Physics and Controlled Nuclear Fusion Research-1978* (IAEA, Vienna, 1981), Vol. 3, pp. 29–38.

117. B. Yaakobi, D. Steel, E. Thorsos, A. Hauer, B. Perry, S. Skupsky, J. Geiger, C. M. Lee, S. Letzring, J. Rizzo, T. Mukaiyama, E. Lazarus, G. Halpern, H. Deckman, J. Delettrez, J. Soures, and R. McCrory, "Explosive-Pusher-Type Laser Compression Experiments with Neon-Filled Microballoons," Phys. Rev. A **19**, 1247–1262 (1979).

116. E. A. Williams, J. R. Albritton, and M. N. Rosenbluth, "Effect of Spatial Turbulence on Parametric Instabilities," Phys. Fluids **22**, 139–149 (1979).

115. J. M. Eastman, "Scattering by All-Dielectric Multilayer Bandpass Filters and Mirrors for Lasers," Physics of Thin Films **10**, 167–226 (1978).

114. S. Skupsky, "High Thermonuclear Energy Gains with a Low Tritium Inventory for Inertially Confined Fusion," Nucl. Fusion **18**, 843–848 (1978).

113. J. E. Balmer, T. P. Donaldson, W. Seka, and J. A. Zimmermann, "Self-Focusing and the Initial Stages of Plasma Generation by Short Laser Pulses," Opt. Commun. **24**, 109–112 (1978).

112. J. Wilson and D. Ehrlich, "Down Conversion of 351 nm Radiation for Fusion Lasers," in *High-Power Lasers and Applications*, edited by K. Kompa and H. Walther (Springer-Verlag, New York, 1978), pp. 178–181.

111. D. C. Leiner and D. T. Moore, "Real-Time Phase Microscopy Using a Phase-Lock Interferometer," Rev. Sci. Instrum. **49**, 1702–1705 (1978).

110. D. T. Moore, R. Murray, and F. B. Neves, "Large Aperture AC Interferometer for Optical Testing," Appl. Opt. **17**, 3959–3963 (1978).

109. T. Speziale and P. J. Catto, "Magnetic Field Generation via Resonant Absorption," Phys. Fluids **21**, 2063–2071 (1978).

108. C. M. Lee and A. Hauer, "Measurements of Compressed Core Density of Laser-Imploded Targets by X-Ray Continuum-Edge Shift," Appl. Phys. Lett. **33**, 692–694 (1978).

107. V. A. Bhagavatula, "Experimental Evidence for Soft X-Ray Population Inversion by Resonant Photoexcitation in Multicomponent Laser Plasmas," Appl. Phys. Lett. **33**, 726–728 (1978).

106. J. Wilson, D. C. Brown, and W. K. Zwicker, "XeF Excimer Pumping of Nd:P_5O_{14}," Appl. Phys. Lett. **33**, 614–616 (1978).

105. Y. Ben-Aryeh, "Multi-Photon Absorption in the Quasicontinuum of Molecules of the Type of SF_6," Phys. Lett. **67A**, 363–368 (1978).

104. C. M. Vest and D. G. Steel, "Reconstruction of Spherically Symmetric Objects from Slit-Imaged Emission: Application to Spatially Resolved Spectroscopy," Opt. Lett. **3**, 54–56 (1978).

103. M. S. Chou and G. A. Zawadzkas, "Observation of New Atomic Nitrogen Laser Transition at 9064 Å," Opt. Commun. **26**, 92 (1978).

102. C. M. Lee and E. I. Thorsos, "Properties of Matter at High Pressures and Temperatures," Phys. Rev. A **17**, 2073–2076 (1978).

101. W. Seka and J. Bunkenburg, "Active-Passive Mode-Locked Oscillators at 1.054 μm," J. Appl. Phys. **49**, 2277–2280 (1978).

100. W. Friedman, W. Seka, and J. Soures, "On the Generation of Temporally Shaped Laser Pulses for Inertial Confinement," Opt. Commun. **25**, 103–106 (1978).

99. M. Rothschild, W. Tsay, and D. O. Ham, "Threshold Behavior of Multiple Photon Dissociation of SF_6," Opt. Commun. **24**, 327–330 (1978).

98. V. A. Bhagavatula and B. Yaakobi, "Direct Observation of Population Inversion Between $A1^{+11}$ Levels in a Laser-Produced Plasma," Opt. Commun. **24**, 331–335 (1978).

97. P. J. Catto, "Model of the Rayleigh-Taylor Stability of an Ablating Fluid," Phys. Fluids **21**, 30–33 (1978).

96. D. C. Brown, S. D. Jacobs, and N. Nee, "Parasitic Oscillations, Absorption, Stored Energy Density and Heat Density in Active-Mirror and Disk Amplifiers," Appl. Opt. **17**, 211–224 (1978).

95. J. Gur and J. M. Forsyth, "Optical Simulation of a Technique for Obtaining Submicron Resolution X-Ray Images in Laser Pellet Compression Experiments," Appl. Opt. **17**, 1–2 (1978).

94. E. B. Goldman, L. M. Goldman, J. Delettrez, J. Hoose, S. Jackel, G. W. Leppelmeier, M. J. Lubin, A. Nee, I. Pelah, E. Thorsos, D. Woodall, and B. Yaakobi, "Theory and Interpretation of Laser Compression Studies at the University of Rochester," in *Laser Interaction and Related Plasma Phenomena*, edited by H. Schwarz and H. Hora (Plenum Press, New York, 1977), Vol. 4A, pp. 535–550.

93. J. Hoose, "The OMEGA Fusion Laser System" Proc. SPIE **103**, 22–28 (1977).

92. S. Kumpan, “Focusing Systems for High Energy Glass Lasers,” Proc. SPIE **103**, 41–47 (1977).

91. G. M. Halpern, J. Varon, D. C. Leiner, and D. T. Moore, “Laser Fusion Microballoon Wall-Thickness Measurements: A Comparative Study,” J. Appl. Phys. **48**, 1223–1228 (1977).

90. D. C. Brown, S. D. Jacobs, J. A. Abate, O. Lewis, and J. Rinefierd, “Figures of Merit and Correlations of Physical and Optical Properties in Laser Glasses,” in *Laser Induced Damage in Optical Materials: 1977*, Natl. Bur. Stand. (U.S.), Spec. Publ. 509, (U.S. Government Printing Office, Washington, DC, 1977), pp. 416–422.

89. J. A. Abate, D. C. Brown, C. Cromer, S. D. Jacobs, J. Kelly, and J. Rinefierd, “Direct Measurement of Inversion Density in Silicate and Phosphate Laser Glass,” in *Laser Induced Damage in Optical Materials: 1977,* Natl. Bur. Stand. (U.S.), Spec. Publ. 509, (U.S. Government Printing Office, Washington, DC, 1977), pp. 410–415.

88. J. R. Albritton, I. B. Bernstein, E. J. Valeo, and E. A. Williams, “Transport of Long-Mean-Free-Path Electrons in Laser-Fusion Plasmas,” Phys. Rev. Lett. **39**, 1536–1540 (1977).

87. B. Yaakobi, D. Steel, E. Thorsos, A. Hauer, and B. Perry, “Direct Measurement of Compression of Laser-Imploded Targets Using X-Ray Spectroscopy,” Phys. Rev. Lett. **39**, 1526–1529 (1977).

86. D. J. Ehrlich and J. Wilson, “Subnanosecond Laser Excited Fluorescence of Pyrene and Fluoranthene Vapors,” J. Chem. Phys. **67**, 5391–5392 (1977).

85. D. C. Brown and T.-S. N. Nee, “Design of Single Mesh Flashlamp Driving Circuits with Resistive Losses,” IEEE Trans. Electron Devices, **ED-24**, 1285–1287 (1977).

84. J. R. Albritton, “Multiple-Bounce and Snowplow Model Expansions of Exploding Plasmas,” Phys. Fluids **20**, 1915–1919 (1977).

83. R. L. McCrory, R. L. Morse, and K. A. Taggart, “Growth and Saturation of Instability of Spherical Implosions Driven by Laser or Charged Particle Beams,” Nucl. Sci. Eng. **64**, 163–176 (1977).

82. S. Skupsky, “Energy Loss of Ions Moving Through High-Density Matter,” Phys. Rev. A **16**, 727–731 (1977).

81. I. Pelah and A. Hauer, “Differential Calorimeter for Measurement of Absorbed Energy in Laser-Produced Plasmas,” Rev. Sci. Instrum. **48**, 1068–1071 (1977).

80. D. O. Ham and M. Rothschild, “Transmission Measurements of Multiple Photon Absorption in SF_6,” Opt. Lett. **1**, 28–30 (1977).

79. J. Varon, “Free-Standing Microdisk Targets for Single Beam Laser Experiments,” Rev. Sci. Instrum. **48**, 941–942 (July 1977).

78. T. Speziale and P. J. Catto, "Linear Wave Conversion in an Unmagnetized, Collisionless Plasma," Phys. Fluids **20**, 990–997 (June 1977).

77. P. J. Catto and R. M. More, "Sheath Inverse Bremsstrahlung in Laser Produced Plasmas," Phys. Fluids **20**, 704–705 (April 1977).

76. R. L. McCrory and R. L. Morse, "Dependence of Laser-Driven Compression Efficiency on Wavelength," Phys. Rev. Lett. **38**, 544–547 (March 1977).

75. B. Yaakobi and T. C. Bristow, "Measurement of Reduced Thermal Conduction in (Layered) Laser-Target Experiments," Phys. Rev. Lett. **38**, 350–353 (February 1977).

74. D. J. Ehrlich and J. Wilson, "Electronic Energy Transfer from Cd (5^3P_1) to POPOP Vapor," Opt. Commun. **20**, 314–318 (February 1977).

73. P. J. Catto and T. Speziale, "Strong Field Inverse Bremsstrahlung via a Lorentz Model," Phys. Fluids **20**, 167–168 (January 1977).

72. D. M. Woodall, B. Yaakobi, and M. J. Lubin, "Review of Diagnostics for Laser-Pellet Interaction Experiments," in *Laser Induced Fusion and X-Ray Laser Studies*, edited by S. F. Jacobs, (Addison-Wesley Publishing Co., Reading, MA, 1976), Vol. 3, pp. 191–250.

71. J. M. Forsyth, T. C. Bristow, B. Yaakobi, and A. Hauer, "Soft X-Ray Amplification in a Laser-Produced Plasma: A Review and Prognosis," in *Recent Advances in Laser Physics*, edited by M. Sargent, M. Scully, and W. Lamb Jr. (Addison-Wesley Publishing Co., Reading, MA, 1976), pp. 581–629.

70. G. Bekefi, C. Deutsch, and B. Yaakobi, "Spectroscopic Diagnostics of Laser Plasmas," in *Principles of Laser Plasmas* (Wiley, New York, 1976), pp. 549–669.

69. P. Labudde, W. Seka, and H. P. Weber, "Gain Increase in Laser Amplifiers by Suppression of Parasitic Oscillations," Appl. Phys. Lett. **29**, 732–734 (December 1976).

68. W. Seka and E. Stussi, "Nonlinear Absorber Characteristics and their Effects on Discrimination Amplifiers," J. Appl. Phys. **47**, 3538–3541 (August 1976).

67. R. E. Hopkins, "Some Thoughts on Lens Mounting," Opt. Eng. **15**, 428–430 (September/October 1976).

66. J. M. Eastman, T. T. Saito, and R. Parks, "Optical Fabrication and Testing," Opt. Eng. **15**, 389–391 (September/October 1976).

65. W. Friedman, S. Jackel, W. Seka, and J. Zimmerman, "Dynamic Range and Spatial Resolution of Picosecond Streak Cameras," Proc. SPIE **97**, 544–548 (1976).

64. S. D. Jacobs and K. J. Teegarden, "Hot-Pressed $CdCr_2S_4$ for Faraday Effect Isolation at 10.6 μm: Preliminary Damage Tests," in *Laser Induced Damage in Optical Materials:*

1976, Natl. Bur. Stand. (U.S.), Spec. Publ. 462 (U.S. Government Printing Office, Washington, DC, 1976), pp. 126–134.

63. J. Wilson, J. Bouesc, B. Fontaine, and B. Forestier, "The Gasdynamic Recombination Laser: O_2, $C1_2$, Br_2, and NO_2," in *Electronic Transition Lasers*, edited by J. I. Steinfeld (MIT Press, Cambridge, MA, 1976), pp. 91–94.

62. D. O. Ham and C. T. Havens, "Chemiluminescent Excitation of $Na_2\left(A^1\Sigma_u^+\right)$ by Sodium-Halogen Reactions, and Laser Possibilities in this System," in *Electronic Transition Lasers*, edited by J. I. Steinfeld (MIT Press, Cambridge, MA, 1976), pp. 33–35.

61. I. Pelah, "Diagnosis of Laser Produced Plasma with Charge Collectors," Phys. Lett. **59A**, 348–350 (1976).

60. L. M. Goldman, E. B. Goldman, J. Delettrez, J. Hoose, S. Jackel, G. W. Leppelmeier, M. J. Lubin, A. Nee, I. Pelah, E. Thorsos, D. Woodall, and B. Yaakobi, "Laser Compression Studies at the University of Rochester," in *Plasma Physics and Controlled Nuclear Fusion Research-1976* (IAEA, Vienna, 1977), Vol. 1, pp. 109–119.

59. B. Yaakobi, I. Pelah, and J. Hoose, "Preheat by Fast Electrons in Laser-Fusion Experiments," Phys. Rev. Lett. **37**, 836–839 (1976).

58. V. A. Bhagavatula, "Soft X-Ray Population Inversion by Resonant Photo-excitation in Multicomponent Laser Plasmas," J. Appl. Phys. **47**, 4535–4537 (1976).

57. I. Pelah, E. B. Goldman, and B. Yaakobi, "Hydrodynamic Efficiency Measurements in Laser-Imploded Targets," Phys. Rev. Lett. **37**, 829–832 (1976).

56. S. Refermat and J. Eastman, "Polarizing Optical Components for High Power Glass Laser Systems," Proc. SPIE **88**, 28–33 (1976).

55. R. M. More and S. Skupsky, "Nuclear-Motion Corrections to the Thomas-Fermi Equation of State for High-Density Matter," Phys. Rev. A **14**, 474–479 (1976).

54. S. Jackel, B. Perry, and M. Lubin, "Dynamics of Laser-Produced Plasmas through Time-Resolved Observations of the $2\omega_0$ and $3\omega_0/2$ Harmonic Light Emissions," Phys. Rev. Lett. **37**, 95–98 (1976).

53. B. Yaakobi and A. Nee, "Spatially Resolved and Stark-Broadened X-Ray Lines from Laser-Imploded Targets," Phys. Rev. Lett. **36**, 1077–1081 (1976).

52. R. E. Hopkins and M. J. Buzawa, "Optics for Laser Scanning," Opt. Eng. **15**, 90–94 (1976).

51. R. L. McCrory and R. L. Morse, "Turbulent Pusher Behavior," Phys. Fluids **19**, 175–176 (January 1976).

50. R. C. Malone, R. L. McCrory, and R. L. Morse, "Indications of Strongly Flux-Limited Electron Thermal Conduction in Laser-Target Experiments," Phys. Rev. Lett. **34**, 721–724 (1975).

49. J. Albritton and G. Rowlands, "On the Relation Between Lagrangian Solutions and Bernstein-Greene-Kruskal Modes in a Cold Plasma," Nucl. Fusion **15**, 1199 (1975).

48. M. Lubin, E. Goldman, J. Soures, L. Goldman, W. Friedman, S. Letzring, J. Albritton, P. Koch, and B. Yaakobi, "Single- and Multi-Beam Laser Pellet Fusion Experiments," Proc. SPIE **2**, 459–477 (1975).

47. J. M. Eastman, "Effects and Measurement of Scattering and Absorption of Thin Films," Proc. SPIE **50**, 43–67 (1975).

46. G. S. Fraley, W. P. Gula, D. B. Henderson, R. L. McCrory, R. C. Malone, R. J. Mason, and R. L. Morse, "Implosion, Stability, and Burn of Multi-Shell Fusion Pellets," in *Plasma Physics and Controlled Nuclear Fusion Research-1974* (IAEA, Vienna, 1975), Vol. 2, pp. 543–555.

45. A. Hauer and S. J. Burns, "Observation of an X-Ray Shuttering Mechanism Utilizing Acoustic Interruption of the Borrmann Effect," Appl. Phys. Lett. **27**, 524–526 (1975).

44. J. Albritton and P. Koch, "Cold Plasma Wavebreaking: Production of Energetic Electrons," Phys. Fluids **18**, 1136–1139 (September 1975).

43. S. Jackel, J. Albritton, and E. Goldman, "Critical Density Scalelength Measurements in Laser-Produced Plasmas," Phys. Rev. Lett. **35**, 514–517 (1975).

42. B. Yaakobi, T. C. Bristow, and A. Hauer, "Spatial Resolution of Laser Produced Plasmas with X-Ray Crystals," Opt. Commun. **14**, 336–338 (July 1975).

41. L. M. Goldman, "The Energy Problem - Prospects for Fossil, Fission, and Fusion Power Production," Proc. SPIE **61**, 2–8 (1975).

40. J. M. Soures, "Design Criteria for High Power Laser Systems," Proc. SPIE **61**, 68–72 (1975).

39. A. Hauer, "Fast X-Ray Shutters," Proc. SPIE **61**, 51–54 (1975).

38. S. A. Kumpan, "Optical Focusing Criteria for Laser Fusion," Proc. SPIE **61**, 25–30 (1975).

37. R. E. Kinsinger and E. B. Goldman, "Some Basic Energy and Economic Considerations for a Laser Ignited Fusion Reactor," Proc. SPIE **61**, 16–24 (1975).

36. D. O. Ham and G. P. Quigley, "Optical Isotope Enrichment - A Scientific Overview," Proc. SPIE **61**, 9–14 (1975).

35. P. Koch and J. Albritton, "Nonlinear Evolution of Stimulated Raman Backscatter in Cold Homogeneous Plasma," Phys. Rev. Lett. **34**, 1616–1620 (June 1975).

34. S. Skupsky and R. K. Osborn, “Laser Beam Self-Focusing in Gases,” Il Nuovo Cimento **26B**, 181–190 (March 1975).

33. J. R. Albritton, “Stimulated Compton Backscatter from Free Electrons in Laser-Induced Fusion Plasmas,” Phys. Fluids **18**, 51–56 (January 1975).

32. W. D. Friedman, “Photometric Measurements with an Image Converter Streak Camera,” in *XI International Congress on High Speed Photography*, London, 228–234 (1974).

31. R. N. Horoshko, H. Hurwitz, and H. Zmora, “Application of Laser Fusion to the Production of Fissile Materials,” Ann. Nucl. Sci. & Eng. **1**, 223–232 (1974).

30. D. F. DuBois, D. W. Forslund, and E. A. Williams, “Parametric Instabilities in Finite Inhomogeneous Media,” Phys. Rev. Lett. **33**, 1013–1016 (1974).

29. E. B. Goldman, “Frequency-Dependent Absorption Efficiency and Neutron Production in Low-Energy Laser Irradiation of Slab Targets,” J. Appl. Phys. **45**, 5211–5217 (1974).

28. J. Wilson, “Continuous CO_2 Lasers,” Energ. Nucl. **21**, 570–582 (October 1974).

27. W. D. Friedman, G. M. Halpern, and B. A. Brinker, “Target Fabrication and Positioning Techniques for Laser Fusion Experiments,” Rev. Sci. Instrum. **45**, 1245–1252 (1974).

26. J. Soures, S. Kumpan, and J. Hoose, “High Power Nd:Glass Laser for Fusion Applications,” Appl. Opt. **13**, 2081–2094 (September 1974).

25. D. B. Henderson, R. L. McCrory, and R. L. Morse, “Ablation Stability of Laser-Driven Implosions,” Phys. Rev. Lett. **33**, 205–208 (July 1974).

24. P. Koch and J. Albritton, “Electron and Ion Heating Through Resonant Plasma Oscillations,” Phys. Rev. Lett. **32**, 1420–1423 (June 1974).

23. J. K. McIver, Jr. and M. J. Lubin, “On the Question of Charged-Particle Motion in a Focused Laser Field,” J. Appl. Phys. **45**, 1682–1687 (April 1974).

22. D. C. Brown and N. Ginsburg, “Study of Noise in He-Cd^+ Laser,” Appl. Phys. Lett. **24**, 287–289 (March 1974).

21. E. B. Goldman, W. Leising, A. Brauer, and M. J. Lubin, “Plasma Production from Solid Targets by Nanosecond Prepulses,” J. Appl. Phys. **45**, 1158–1170 (March 1974).

20. J. N. Shiau, E. B. Goldman, and C. I. Weng, “Linear Stability Analysis of Laser-Driven Spherical Implosions,” Phys. Rev. Lett. **32**, 352–355 (February 1974).

19. D. C. Brown and T. M. Swift, “An Investigation of the Effect of an Axial Magnetic Field on the He-Cd^+ Laser,” IEEE J. Quantum Electron. **QE-10**, 94–95 (January 1974).

18. E. B. Goldman, “Numerical Modeling of Laser Produced Plasmas: The Dynamics and Neutron Production in Dense Spherically Symmetric Plasmas,” Plasma Phys. **15**, 289–310 (1973).

17. J. Soures, L. M. Goldman, and M. Lubin, “Short-Pulse-Laser-Heated Plasma Experiments,” Nucl. Fusion **13**, 829–838 (1973).

16. L. M. Goldman, J. Soures, and M. J. Lubin, “Saturation of Stimulated Backscattered Radiation in Laser Plasmas,” Phys. Rev. Lett. **31**, 1184–1187 (November 1973).

15. M. Oron and Y. Paiss, “A Dynamic Mass Spectrometer for the Study of Laser-Produced Plasmas,” Rev. Sci. Instrum. **44**, 1293–1296 (September 1973).

14. J. M. Soures, L. M. Goldman, and M. J. Lubin, “Spatial Distribution of Inversion in Face Pumped Nd:Glass Laser Slabs,” Appl. Opt. **12**, 927–928 (May 1973).

13. T. C. Bristow, J. M. Forsyth, and M. J. Lubin, “Comments on the Paper ‘Experimental Evidence of an X-Ray Laser’,” Proc. Nat. Acad. Sci. USA **70**, 1227–1228 (April 1973).

12. M. J. Lubin, J. M. Soures, and L. M. Goldman, “Large-Aperture Nd:Glass Laser Amplifier for High-Peak-Power Application,” J. Appl. Phys. **44**, 347–350 (January 1973).

11. M. Lubin, J. Soures, E. Goldman, T. Bristow, and W. Leising, “Laser Heated Overdense Plasmas for Thermonuclear Fusion,” in *Laser Interaction and Related Plasma Phenomena* (Plenum Press, New York, 1972), Vol. 2, pp. 433–467.

10. W. Halchin, J. F. Clarke, S. M. DeCamp, P. H. Edmonds, J. C. Ezell, J. E. Francis, R. E. Hill, G. G. Kelley, S. O. Lewis, J. R. McNally, Jr., M. Murakami, M. Roberts, M. J. Lubin, and J. M. Soures, “ORMAK Facility,” IEEE Trans. Nucl. Sci. **NS-18**, 42–48 (August 1971).

9. C. F. Barnett, J. F. Clarke, R. C. Davis, R. A. Dory, P. H. Edmonds, H. K. Forsen, J. T. Hogan, G. G. Kelley, M. J. Lubin, J. R. McNally, O. B. Morgan, M. Murakami, M. Roberts, J. M. Soures, L. D. Stewart, W. L. Stirling, and M. M. Widner, “Oak Ridge Tokamak Research,” in *Plasma Physics and Controlled Nuclear Fusion Research*, 4th (IAEA, Vienna, 1971), Vol. 1, pp. 347–357.

8. M. J. Lubin and A. P. Frass, “Fusion by Laser,” Sci. Am. **224**, 21–33 (June 1971).

7. H. S. Dunn and M. J. Lubin, “Electromagnetic Radiation from a Laser Produced Plasma Expanding into a Uniform Magnetic Field,” J. Plasma Phys. **4**, 573–583 (1970).

6. M. J. Lubin, W. Friedman, M. Roberts, and I. Alexeff, “Plasma Confinement in a High Magnetic Field Toroidal Quadrupole,” Phys. Fluids **13**, 3054–3056 (December 1970).

5. M. J. Lubin, “Laser-Produced Plasmas for Power Generation and Space Propulsion,” Astronautics and Aeronautics, 42–48 (November 1970).

4. M. Murakami, J. F. Clarke, G. G. Kelley, and M. J. Lubin, "Feasibility Study of a Thomson Scattering Measurement of the Poloidal Magnetic Field in the ORMAK-II," Oak Ridge National Laboratory Report, ORNL-TM-3093 (October 1970).

3. J. Soures and M. J. Lubin, "Electron Cyclotron Resonance Heating in a Q Machine," Phys. Fluids **13**, 1648–1650 (June 1970).

2. M. J. Lubin, H. S. Dunn, and W. Friedman, "Heating and Confinement Studies of Laser-Irradiated Solid-Particle Plasmas," in *Plasma Physics and Controlled Nuclear Fusion Research*, 3rd (Novosibirsk, USSR, August 1968), Vol. 1, pp. 945–964.

1. M. J. Lubin, "Theoretical Considerations on Precursor Waves in Electro-Magnetically Driven Shock Tubes," Phys. Fluids **10**, 1794–1800 (August 1967).
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