

## ICF Semiannual Publications, April 2005 – September 2005

### A

J. J. Adams, LLNL; T. L. Weiland, LLNL; J. R. Stanley, LLNL; W. D. Sell, LLNL; R. L. Luthi, LLNL; J. L. Vickers, LLNL; D. A. Willard, LLNL; C. W. Carr, LLNL; R. P. Hackel, LLNL; *Wavelength and Pulse Length Dependence of Laser Conditioning and Bulk Damage in Doubler-cut KH<sub>2</sub>PO<sub>4</sub>*, UCRL-ABS-212583, Boulder Damage Symposium XXXVII, 9/19/05–9/21/05, Boulder, CO.

J. J. Adams, LLNL; C. W. Carr, LLNL; M. D. Feit, LLNL; A. M. Rubenchik, LLNL; J. A. Jarboe, LLNL; T. L. Weiland, LLNL; J. R. Stanley, LLNL; W. D. Sell, LLNL; R. L. Luthi, LLNL; J. L. Vickers, LLNL; D. A. Dillard, LLNL; R. P. Hackel, LLNL; *Wavelength and Pulse Length Dependence of Laser Conditioning and Bulk Damage in Doubler-cut KH<sub>2</sub>PO<sub>4</sub>*, UCRL-PRES-215422, Boulder Damage Symposium XXXVII, 9/19/05–9/21/05, Boulder, CO.

Kathy L Allen, LLNL; Randy W Allmon, LLNL; Kathy F Alviso, LLNL; Balbir S Bhachu, LLNL; Charles D Boley, LLNL; Alan k Burnham, LLNL; Richard L Combs, LLNL; Kurt P Cutter, LLNL; Scott N Fochs, LLNL; Sally A Gonzales, LLNL; Randy L Hurd, LLNL; Kai N LaFortune, LLNL; William J Manning, LLNL; Matt A McClelland, LLNL; Roy D Merrill, LLNL; Leticia Molina, LLNL; John M Parker, LLNL; Charles W Parks, LLNL; Paul H Pax, LLNL; Arthur S Posey, LLNL; Mark D Rotter, LLNL; Bruce M Roy, LLNL; Alexander M Rubenchik, LLNL; Thomas F Soules, LLNL; *The Solid State Heat Capacity Laser (SSHCL)*, UCRL-ABS-214173, Eighth Annual Directed Energy Symposium, 11/14/05–11/18/05, Lihue, HI.

J. P. Armstrong, LLNL; B. C. Stuart, LLNL; J. Gunther, LLNL; A. M. Rubenchik, LLNL; *Micron-Scale Deep Hole Drilling For Metallic Capsule Fill Applications*, UCRL-ABS-211095, The Sixteenth Target Fabrication Specialists Meeting, 5/1/05–5/5/05, Scottsdale, AZ.

P. A. Arnold, LLNL; C. W. Ollis, LLNL; A. F. Hinz, LLNL; F. Barbosa, LLNL; E. S. Fulkerson, LLNL; *Pulsed Power Aspects of the NIF Plasma Electrode Pockels Cell*, UCRL-CONF-212872, 2005 Pulsed Power Conference, 6/13/05–6/17/05, Monterey, CA.

D. P. Atkinson, LLNL; *NIF Cryogenic Target Systems (NCTS)*, UCRL-PRES-213948, 7/25/05.

D. P. Atkinson, LLNL; P. J. Bilotft, LLNL; V. P. Brugman, LLNL; F. E. Coffield, LLNL; A. G. Debeling, LLNL; R. D. Dillman, LLNL; B. J. Haid, LLNL; S. F. Locke, LLNL; M. R. Latta, LLNL; M. H. Lee, LLNL; T. C. Reitz, LLNL; S. J. Shiromizu, LLNL; K. M. Skulina, LLNL; J. D. Williams, LLNL; N. B. Alexander, General Atomics; R. Gallix, General Atomics; C. R. Gibson, General Atomics; R. F. Earley, University of Rochester-LLE; L. D. Lund, University of Rochester-LLE; *Conceptual Design of the NIF Cryogenic Target System for Ignition Targets*, UCRL-ABS-214311, Sixth Biennial Tri-Laboratory Engineering Conference, 9/12/05–9/15/05, Monterey, CA.

D. P. Atkinson, LLNL; P.J. Bilotft, LLNL; V.P. Brugman, LLNL; F.E. Coffield, LLNL; R.D. Dillman, LLNL; B.J. Haid, LLNL; S.F. Locke, LLNL; S.J. Shiromizu, LLNL; K.M. Skulina, LLNL; J. D. Williams, LLNL; N.B. Alexander, General Atomics; R. Gallix, General Atomics; C.R. Gibson, General Atomics; R.F. Earley, University of Rochester-Laboratory for Laser Energetics; L.D. Lund, University of Rochester-Laboratory for Laser Energetics; *Conceptual Design of the NIF Cryogenic Target System for Ignition Targets*, UCRL-PRES-214791, 8/24/05.

E. R. Ault, LLNL; R & R memo plus MTBFsim document, UCRL-MI-213313, 6/29/05.

A. A. S. Awwal, LLNL; C. K. Law, LLNL; J. V. Candy, LLNL; W. A. McClay, LLNL; S. W. Ferguson, LLNL; S. C. Burkhart, LLNL; *Commissioning the Off-normal Processor for NIF Alignment Images Under Varying Imaging Conditions*, UCRL-ABS-213618, *Sixth Biennial Tri-Laboratory Engineering Conference*, 9/12/05–9/15/05, Monterey, CA.

A. A. S. Awwal, LLNL; *Hough Transform Based Corner Detection for Laser Beam Positioning*, UCRL-CONF-214168, SPIE - Optics and Photonics 2005, 7/31/05–8/4/05, San Diego, CA.

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S. G. Azevedo, LLNL; L. M. Kegelmeyer, LLNL; J. A. Liebman, LLNL; S. W. Ferguson, LLNL; E. S. Bliss, LLNL; J. T. Salmon, LLNL; A. D. Conder, LLNL; S. M. Glenn, LLNL; M. Bezuijen, Delft university, Delft, The Netherlands; J. J. Chang, LLNL; R. R. Prasad, LLNL; V. J. Miller Kamm, LLNL; S. C. Burkhart, LLNL; *National Ignition Facility (NIF) Laser Optics Inspection*, UCRL-PRES-214221, 8/1/05.

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C. A. Back, LLNL; U. Feldmand, Naval Research Laboratory; J. L. Weaver, Naval Research Laboratory; J. Seely, Naval Research Laboratory; G. Holland, Naval Research Laboratory; R. W. Lee, LLNL; H. K. Chung, LLNL; C. Constantin, LLNL; H. A. Scott, LLNL; *Absolute, time-resolved emission of non-LTE L-shell spectra from Ti-doped Aerogels*, UCRL-JRNL-211261, 4/11/05, *Journal of Quantative Spectroscopy and Radiative Transfer*.

C. A. Back, General Atomics; R. Tommasini, LLNL; J. F. Seely, Naval Research Laboratory; U. Feldman, Artep Inc.; J. L Weaver, Naval Research Laboratory; M. Tillac, UC San Diego; C. Constantin, LLNL; S. G. Glendinning, LLNL; H.-K. Chung, LLNL; M. D. Rosen, LLNL; R. W. Lee, LLNL; H. A. Scott, LLNL; J. D. Kilkenny, General Atomics; Underdense Radiation Sources: Moving to longer wavelengths, UCRL-ABS-211508, 4th International Conference on Inertial Fusion Sciences and Applications, 9/4/05–9/9/05, 4/19/05, Biarritz, France.

C. A. Back, General Atomics, San Diego, CA; R. Tommasini, LLNL; S. G. Glendinning, LLNL; M. D. Rosen, LLNL; *Improving The Localization And Temporal Duration Of Multi-KeV X-Ray Sources*, UCRL-PRES-214491, 8/10/05.

C. Back, General Atomics; N. Lanier, Los Alamos National Laboratory; A. Nobile, Los Alamos National Laboratory; D. Meyerhofer, Laboratory for Laser Energetics, Rochester NY; B. MacGowan, LLNL; G. Rochau, Sandia National Laboratory; H.-S. Park, LLNL; B. A. Remington, LLNL; E. Moses, LLNL; P. Young, LLNL; L. McNeil, Bechtel Nevada, Livermore Office; O. Landen, LLNL; *High Energy Density Physics Experiments*, UCRL-PRES-215421, 9/16/05.

P. A. Baisden, LLNL; L. J. Atherton, LLNL; R. P. Hackel, LLNL; M. L. Spaeth, LLNL; *Optics for the National Ignition Facility*, UCRL-ABS-211248, Fourth International Conference on Inertial Fusion Sciences and Applications, 9/4/05–9/9/05, Biarritz, France.

K. Barat, LLNL; *In Laser Safety, Little Mistakes Can Have Big Consequences*, UCRL-JRNL-212941, 6/14/05, Photonics Spectra.

K. Barat, LLNL; *Obstacles to Laser Safety*, UCRL-JRNL-213236, 6/24/05, OE Magazine.

Ken Barat, LLNL; IEEE Product Safety Chapter Presentation, UCRL-PRES-212781, 6/8/05.

K. Barat, LLNL; *Laser Safety Inspection Criteria*, UCRL-JRNL-213538, 7/12/05.

Kenneth Barat, LLNL; *LSO training Enhancements*, UCRL-PRES-214183, 7/30/05.

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Carlos Barrera, Lawrence Berkeley National Laboratory; Edward Morse, Lawrence Berkeley National Laboratory; Jeffrey Koch, LLNL; Michael Moran, LLNL; *Study Of Organic Scintillators For Neutron Imaging*, UCRL-PRES-213052, 6/20/05.

C. A. Barrera, UC Berkeley; E. C. Morse, UC Berkeley; S. W. Haan, LLNL; J. A. Koch, LLNL; M. J. Moran, LLNL; *Model-Based Analysis Of An ICF Neutron Imaging System*, UCRL-ABS-213653, 47th Annual Meeting of the Division of Plasma Physics, 10/24/05–10/28/05, Denver, CO.

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C. P. J. Barty, LLNL; M. H. Key, LLNL; G. Tietbohl, LLNL; J. Britten, LLNL; R. Beach, LLNL; *Advanced Technology and Applications on NIF*, UCRL-ABS-211249, The Fourth International Conference on Inertial Fusion Sciences and Applications (IFSA2005), 9/4/05–9/9/05, Biarritz, France.

C. P. J. Barty, LLNL; *Multi-kilojoule Petawatt Lasers: Technology and Applications at the National Ignition Facility*, UCRL-ABS-212760, 14th International Laser Physics Workshops (LPHYS'05), 7/4/05–7/8/05, Kyoto, Japan.

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- I. L. Bass, LLNL; G. M. Guss, LLNL; R. P. Hackel, LLNL; *Mitigation of Laser Damage Growth in Fused Silica with a Galvanometer Scanned CO<sub>2</sub> Laser*, UCRL-ABS-212709, Boulder Damage Symposium XXXVII, 9/19/05–9/21/05, Boulder, CO.
- A. Bayramian, LLNL; K. I. Schaffers, LLNL; *Growth and Scaling of High-Quality Yb:S-FAP for the Mercury Laser*, UCRL-PRES-212783, 6/8/05.
- A. Bayramian, LLNL; *System Operations of Mercury: A Diode Pumped Solid-State Laser*, UCRL-PRES-212766, 6/7/05.
- A. Bayramian, LLNL; *Scaling of High Average Power Frequency Conversion for the Mercury Laser*, UCRL-PRES-212786, 6/8/05.
- A. Bayramian, LLNL; *Short Pulse Capabilities and Future Applications of the Mercury Laser System*, UCRL-PRES-212787, 6/8/05.
- A. Bayramian, LLNL; *System Operations of Mercury: A Diode-Pumped Solid-State Laser*, UCRL-PRES-212780, 6/8/05.
- A. Bayramian, LLNL; J. P. Armstrong, LLNL; R. J. Beach, LLNL; C. Bibeau, LLNL; J. W. Dawson, LLNL; C. A. Ebbers, LLNL; B. L. Freitas, LLNL; B. Kent, LLNL; T. Ladrán, LLNL; W. A. Molander, LLNL; S. A. Payne, LLNL; K. I. Schaffers, LLNL; *Activation of a Temporal, Spectral, and Spatially-Shaped Front End for the Mercury Laser*, UCRL-PRES-212866, 6/10/05.
- A. J. Bayramian, LLNL; C. Bibeau, LLNL; C. A. Ebbers, LLNL; Z. M. Liao, LLNL; J. A. Menapace, LLNL; R. Qiu, LLNL; G. T. Rogowski, LLNL; K. I. Schaffers, LLNL; T. Soules, LLNL; C. A. Stolz, LLNL; J. B. Tassano, LLNL; P. A. Thelin, LLNL; M. A. Randles, Northrop Grumman/Synoptics; Y. Fei, Crystal Photonics, Inc.; B. Chai, Crystal Photonics, Inc.; *Growth of Large Laser Crystals for Fusion Energy*, UCRL-ABS-213758, 3rd International Workshop on Crystal Growth Technology, 9/10/05–9/18/05, Beatenberg, Switzerland.
- A. J. Bayramian, LLNL; P. Armstrong, LLNL; R. J. Beach, LLNL; C. Bibeau, LLNL; R. Campbell, LLNL; C. A. Ebbers, LLNL; B. L. Freitas, LLNL; T. Ladrán, LLNL; Z. M. Liao, LLNL; J. Menapace, LLNL; S. A. Payne, LLNL; N. Peterson, LLNL; K. I. Schaffers, LLNL; C. Stolz, LLNL; S. Telford, LLNL; J. B. Tassano, LLNL; E. Utterback, LLNL; *System Operations of Mercury; A High Average Power Diode-Pumped Solid-State Laser*, UCRL-ABS-213646, Sixth Biennial Tri-Laboratory Engineering Conference, 9/12/05–9/15/05, Monterey, CA.
- A. Bayramian, LLNL; *System Operations of Mercury; A High Average Power Diode-Pumped Solid-State Laser*, UCRL-PRES-215239, 9/9/05.
- A. Bayramian, LLNL; P. Armstrong, LLNL; E. Ault, LLNL; R. Beach, LLNL; M. Benapfl, LLNL; C. Bibeau, LLNL; R. Campbell, LLNL; J. Dawson, LLNL; C. Ebbers, LLNL; B. Freitas, LLNL; R. Kent, LLNL; Z. M. Liao, LLNL; T. Ladrán, LLNL; J. Menapace, LLNL; B. Molander, LLNL; E. Moses, LLNL; S. Oberhelman, LLNL; S. Payne, LLNL; N. Peterson, LLNL; K. Schaffers, LLNL; C. Stolz, LLNL; S. Sutton, LLNL; J. Tassano, LLNL; S. Telford, LLNL; E. Utterback, LLNL; M. Randles, Northrop Grumman Space Technologies, Synoptics; B. Chai, Crystal Photonics; Y. Fei, Crystal Photonics; *The Mercury Project: A high average power, gas-cooled laser with frequency conversion and wavefront correction*, UCRL-ABS-215324, Advanced Solid-State Photonics, 1/29/06–2/1/06, Incline Village, NV.
- Ray Beach, LLNL; *Diode Pumped Alkali Lasers*, UCRL-PRES-213534, 7/12/05.
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- R. J. Beach, LLNL; R. Page, LLNL; *Diode-Pumped Alkali Vapor Lasers*, UCRL-PRES-211749, 4/27/05.
- R. J. Beach, LLNL; *Advanced Solid State Lasers for Inertial Fusion Energy*, UCRL-PRES-212805, 6/9/05.
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D. N. Bittner, Schafer Corporation; J. Burmann, Schafer Corporation; J. D. Moody, LLNL; W. Unites, LLNL; *Layer Formation At Low IR Heating Rates*, UCRL-ABS-211265, The Fourth International Conference on Inertial Fusion Sciences and Applications, 9/4/05–9/9/05, Biarritz, France.

D. N. Bittner, Schafer Corporation; J. D. Moody, LLNL; J. Burmann, Schafer Corporation; *Layer Degradation Upon Rapid Temperature Rise*, UCRL-ABS-213833, The 47th Annual Meeting of the Division of Plasma Physics, 10/24/05–10/28/05, Denver, CO.

B. E. Blue, LLNL; *Astrophysical Jet Experiments*, UCRL-ABS-213873, 47th Annual Meeting of the APS Division of Plasma Physics, 10/24/05–10/28/05, Denver, CO.

B. E. Blue, LLNL; S. G. Glendinning, LLNL; T. R. Dittrich, LLNL; *Evolution of Jets in Porous Foams*, UCRL-ABS-213874, 47th Annual Meeting of the APS Division of Plasma Physics, 10/24/05–10/28/05, Denver, CO.

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J. Bonlie, LLNL; *Titan Laser Vacuum Controls and Monitors--A Work in Progress*, UCRL-TR-214419, 8/8/05.

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J. Bonlie, LLNL; Titan Vacuum System Target Chamber Venting Flow Diagram, UCRL-TR-214423, 8/8/05.

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J. Bonlie, LLNL; *Vacuum Cycling Procedures Without Operational Cryogenic Pumps*, UCRL-TR-214425, 8/8/05.

M. R. Borden, LLNL; J. A. Folta, LLNL; J. R. Taylor, LLNL; C. J. Stolz, LLNL; J. E. Wolfe, LLNL; M. D. Thomas, SPICA Technologies; A. Griffin, SPICA Technologies; *Improvements for laser damage testing of coated optics*, UCRL-ABS-212467, Boulder Damage Symposium XXXVII, 9/19/05–9/21/05, Boulder, CO.

M. R. Borden, LLNL; J. A. Folta, LLNL; C. J. Stolz, LLNL; J. R. Taylor, LLNL; J. E. Wolfe, LLNL; M. Thomas, SPICA Technologies; A. Griffin, *SPICA Technologies; Improvements for Laser Damage Testing of Coated Optics*, UCRL-PRES-215456, 9/17/05.

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