

ICF Semiannual Pubs List, April '04 – Sept '04, Vol 5, No. 2

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Adams, J. J., Carr, C. W., Feit, M. D., Rubenchik, A. M., *Pulselength dependence of laser conditioning and bulk damage in DKDP*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205041, Boulder Damage Symposium, Boulder, CO, September 20–22, 2004.

Adams, J. J., Weiland, T. L., Stanley, J. R., Sell, W. D., Luthi, R. L., Vickers, J. L., Carr, C. W., Feit, M. D., Rubenchik, A. M., Hackel, R. P., *Pulse length dependence of laser conditioning and bulk damage in DK2DP4*, UCRL-PRES-206578.

Armstrong, J. P., Stuart, B. C., Rubenchik, A. M., McEachern, R. L., *High Aspect Ratio Hole Drilling For Beryllium Target Fill Applications*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205359, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Anthamatten, M., Dept. of Chemical Engineering, University of Rochester; Letts, S., LLNL; Day, K., LLNL; Cook, R. LLNL; Gies, A.P., University of Alabama-Birmingham; Nonidez, W.H., University of Alabama-Birmingham; *An Investigation of the solid-State Condensation Polymerization in Vapor-Deposited Poly(Amic Acid)*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204083.

Anthamatten, M., University of Rochester; Letts, S.A, LLNL; Day, K., LLN ; Cook, R.C., LLNL; Gies, A.P., University of Alabama at Birmingham; Hamilton, T.P., University of Alabama at Birmingham; Nonidez, W.K., University of Alabama at Birmingham; *An Investigation of Solid-State Amidization and Imidization Reactions in Vapor Deposited Poly (amic acid)*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JRNL-205310, July 7, 2004.

Awwal, A. A. S., *Automatic Identification of the Templates in Matched Filtering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-205605.

Awwal, A. A. S., *Automatic Identification of the Templates in Matched Filtering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-206883, SPIE Annual Meeting 2004, Denver, CO, August 2–5, 2004.

Awwal, A. A. S., Candy, J. V., Haynam, C. A., Widmayer, C. C., Bliss, E. S., Burkhart, S. C., *Accurate Position Sensing of Defocused Beams Using Simulated Beam Templates*, UCRL-PRES-205629.

Awwal, A. A. S., Ferguson, S. W., McGee, M., Miller, M. G., *Evaluation of Laser Based Alignment Algorithms Under Additive Random and Diffraction Noise*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-205631.

Awwal, A. A. S., McClay, W. A., Candy, J. V., Ferguson, S. W., Salmon, J. T., Wegner, P. J., *Composite AMPOF Filter Based Detection and Tracking of Back-Reflection of KDP Images*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-205604.

Awwal, A. A. S., McClay, W. A., Ferguson, S. W., Candy, J. V., Salmon, J. T., Wegner, P. J., *Composite Amplitude Modulated Phase Only Filter Based Detection and Tracking of the Back-Reflection of KDP Images*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PROC-206725, SPIE 49th Annual Meeting, Denver, CO, August 2–6, 2004.

Awwal, A. A. S., Candy, J. V., Haynam, C. A., Widmayer, C. C., Bliss, E. S., Burkhart, S. C., *Accurate Position Sensing of Defocused Beams Using Simulated Beam Templates*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-206918, SPIE Annual Meeting 2004, Denver, CO, August 2–5, 2004.

Axelrod, M. C., *Modeling Image Noise that is both Non-Gaussian and Non-Stationary*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-205628.

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Back, C. A., Hammer, J. H., Castor, J. J., Maclaren, S. A., Hurricane, O. A., Constantin, C. G., Landen, O. L., Rosen, M. D., Dittrich, T. R., *Experimental investigation of a radiation dominated decaying shock wave*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205514, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Back, C. A., Hammer, J. H., Castor, J. J., Maclaren, S. A., Hurricane, O. A., Constantin, C. G., Landen, O. L., Rosen, M. D., *Experiments investigating the radiative-hydrodynamics of a decaying shock wave*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205444, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Back, C. A., LLNL; Constantin, C., LLNL; Fielding, D., CTI, INC.; Feldman, U., ARTEP INC.; Klapisch, M., ARTEP INC.; Busquet, M., ARTEP INC.; Weaver, J. L., Columbia, MD; Colombant, D., Columbia, MD; Mostovych, A., Columbia, MD; Seely, J., Columbia, MD; Holland, G., NRL; *Spatially Resolved, Absolutely Calibrated Soft X-Ray Measurements at the NIKE Laser Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-206591, 46th Annual APS Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Barrera, C. A., UC Berkeley; Morse, E. C., UC Berkeley; Moran, M. J., LLNL; Koch, J. A., LLNL; *Simulation and Analysis of Pinholes for Neutron Imaging*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205311, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Barty, C. P.J., *Motivations and Challenges for High Energy Petawatt Lasers at the NIF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-203969.

Barty, C.P.J., Hartemann, F. V., *T-REX: Thompson Radiated Extreme X-rays Moving X-Ray Science into the "Nuclear" Applications Space with Thompson Scattered Photons*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TR-206825, September 20, 2004.

Barty, C.P.J., Key, M., Britten, J., Beach, R., Beer, G., Caird, J., Dawson, J., Erlandson, A., Fittinghoff, D., Hermann, M., Hoaglan, C., Jovanovic, I., Komashko, A., Liao, Z., Molander, W., Mitchell, S., Moses, E., Nielsen, N., Payne, S., Pennington, D., Rushford, M., Skulina, K., Stuart,

B., Wattellier, B., Carlson, T., Crane, J., Jones, L., Landen, O., Nguyen, H. H., Spaeth, M., LLNL; Brown, C., Department of Energy; *An Overview of High Energy Short Pulse Technology for Advanced Radiography of Laser Fusion Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JRNL-204814.

Bayramian, A. J., Armstrong, P., Beach, R. J., Ebberts, C. A., Freitas, B. L., Ladrán, T., Payne, S. A., Schaffers, K. I., *Activation of a Temporal, Spectral, and Spatially-Shaped Front End for the Mercury Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-206796, 20th Anniversary Meeting, Advanced Solid-State Photonics, Vienna, Austria, February 6–09, 2005.

Bayramian, A. J., Armstrong, P., Beach, R. J., Bibeau, C., Campbell, R., Ebberts, C. A., Freitas, B. L., Ladrán, T., Menapace, J., Payne, S. A., Peterson, N., Schaffers, K. I., Stolz, C., Telford, S., Tassano, J. B., Utterback, E., *Full System Operations of Mercury; A Diode-Pumped Solid-State Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-206813, Advanced Solid State Photonics, Vienna, Austria, February 6–09, 2005.

Bayramian, A. J., LLNL; Beach, R. J., LLNL; Bibeau, C., LLNL; Campbell, R., LLNL; Ebberts, C. A., LLNL; Freitas, B. L., LLNL; Kent, R., LLNL; Van Lue, D., LLNL; Liao, Z., LLNL; Landron, T., Payne, LLNL; S. A., Schaffers, LLNL; K. I., Sutton, LLNL; S., Fei, Y., Crystal Photonics, Inc.; Chai, B., Crystal Photonics, Inc.; *Frequency Conversion Activation on the Mercury Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-206922, 20th Anniversary Meeting, Advanced Solid-State Photonics, Vienna, Austria, February 6–9, 2005.

Bayramian, A., *Reflectometry of Low Temperature Bonded (LTB) Optical Substrates*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TR-204967.

Beach, R. J., *Diode-Pumped Alkali Vapor Lasers (A New Class of Laser)*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-203965.

Beach, R. J., *Silicon Based Diode Array Packaging Technologies*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204982.

Beach, R. J., *SiMM High Average Power Diode Packaging Technology*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-206213.

Bell, P.M. LLNL; Bennett, C.V., LLNL; Kimbrough, J.R., LLNL; Landen, O.L., LLNL; McDonald, J.W., LLNL; Park, H-S., LLNL; Weber, F.A., LLNL; Moody, J.D., LLNL; Lowry, M.E., LLNL; Holder, J.P., LLNL; Lerche, R.A., LLNL; Davies, T., Bechtel Nevada, Special Technologies Laboratory; *Target Diagnostic Technology Research & Development for the LLNL ICF and HED Program*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-203610, ICF Program, 15 Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, April 19–22, 2004.

Bernat, T.P., LLNL; Gibson, C.R., General Atomics; *Indirect Drive Warm-Loaded Ignition Target Design*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TR-206424, September 1, 2004.

Bernat, T.P., LLNL; Gibson, C.R., General Atomics; Indirect Drive Cold-Loaded Ignition Target Design, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TR-206426, September 7, 2004.

Bernat, T. P., *The CEA - DOE Collaboration on Ignition Target Development*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-205087.

Bernat, T.P., *New Options and Challenges in Ignition Target Fabrication and Fielding*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205354, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Bibeau, C., Payne, S. A., Bayramian, A. J., Beach, R. J., Armstrong, J. P., Campbell, R. W., Dawson, J. W., Ebberts, C. A., Freitas, B. L., Ladran, A. S., Liao, Z. M., Schaffers, K. I., Tassano, J. B., Telford, S. J., Utterback, E.J., *Diode-Pumped Solid-State Laser Drivers for Inertial Fusion Energy*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-206136, Diode-Pumped Solid-State Laser Drivers for IFE, Daejeon, South Korea, October 11–13, 2004.

Bibeau, C., *The Mercury Laser--A gas cooled, 10 Hz, diode pumped Yb:S-FAP system for inertial fusion energy*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-203388, EPS-QEOD Europhoton Conference on Solid State and Fiber Coherent Light Sources, Lausanne, Switzerland, August 27–September 3, 2004.

Bibeau, C., *The Mercury Laser- A gas Cooled, 10 Hz diode pumped Yb: S-FAP system for Inertial Fusion Energy*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-206288.

Bibeau, C., *Progress Report for the Mercury Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204464.

Billah, A. R. B., Wright State University; Wang, B., Wright State University; Awwal, A. A. S.; *Efficient traffic grooming in SONET/WDM BLSR Networks*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JRNL-203432, May 2004.

Bittner, D., General Atomics; Burmann, J., General Atomics; Frazee, R., Schafer Corporation/CA; Stewart, J., Schafer Corporation/CA; *Enhanced Cryo Target Fielding Development*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-203980.

Bittner, D. N., Schafer Corporation; Burmann, J., LLNL; Moody, J. D., LLNL; Unites, W., LLNL; *Layer Formation at Low IR Heating Rates*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205357, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Blue, B. E., LLNL; Miles, A. R., LLNL; Perry, T. S., LLNL; Foster, J. M., AWE, Aldermaston, UK; Rosen, P. A., AWE, Aldermaston, UK; KEITER, P. A., LANL; COKER, R. F., LANL; WILDE, B. H., LANL; *Evolution of the three-dimensional Rayleigh-Taylor Instability*, UCRL-ABS-203609, 9th International Workshop on the Physics of Compressible Turbulent Mixing, Cambridge, United Kingdom, July 19–23, 2004.

Blue, B.E., Robey, H. F., Hansen, J. F., Improved Pinhole-Apertured Point-Projection Backlighter Geometry, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-203624, HED, High Temperature Plasma Diagnostics Conference, San Diego, CA, April 19–22, 2004.

Blue, B. E., *Three-Dimensional Hydrodynamic Experiments on the National Ignition Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205352, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Boley, C. D., Rubenchik, A. M., *Modeling of the Initiation of High-Explosive Targets by Solid State Heat Capacity Lasers*, UCRL-ABS-204813, Seventh Annual Directed Energy Symposium, Rockville, MD, October 18–21, 2004.

Boley, C. D., Rubenchik, A. M., *Modeling of Antimortar Lethality by a Solid -State Heat Capacity Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-206548, Second Annual High Energy Laser Lethality Conference, Tampa, FL, March 15–18, 2005.

Boley, C.D., Rubenchik, A.M., *Simulations of Target Interactions with Pulsed High Energy Solid State Lasers*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-204087, Solid State and Diode Laser Technology Reviews, Albuquerque, NM, June 8–10, 2004.

Boley, C., Rubenchik, A., *Simulation of Target Interactions with Pulsed, High Energy Solid State Lasers*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204462.

Bower, D.E., McCarville, T.J., Alvarez, S.S., Ault, L.E., Brown, M.D., Chrisp, M.P., Damian, C.M., DeHope, W.J., Froula, D.H., Glenzer, S.H., Grace, S.E., Gu, K., Holdener, F.R., Huffer, C.K., Kamperschroer, J.H., Kelleher, T.M., Kimbrough, J.R., Kirkwood, R., Kurita, D.W., Lee, A.P., Lee, F.D., Lewis, I.T., Lopez, F.J., MacGowan, B.J., Poole, M.W., Rhodes, M.A., Schneider, M.B., Sewall, N.R., Shimamoto, F.Y., Shiromizu, S.J., Voloshin, D., Warrick, A.L., Wendland, C.R., Wendland, B.K., *The Full Aperture Backscatter Station Measurement System on the National Ignition Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-203494, 15th Topical Meeting on High-Temperature Plasma Diagnostics, San Diego, CA, April 19–22, 2004.

Bowers, M., *Multipass Amplifier Optical Review*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-203661.

Britten, Jerald A., *Demonstration of Meter-Scale, High Laser Damage Multilayer Dielectric Diffraction Gratings for HEPW Pulse Compression*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-206926, First Intl Conf on Ultrahigh Intensity Lasers, Tahoe City, CA, October 3–7, 2004.

Britten, J.A., *Demonstration of Meter-Scale, High Laser Damage Multilayer Dielectric Diffraction Gratings for HEPW Pulse Compression*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-206713.

Brown, C. G., Jovanovic, I., Molander, W. A., Stuart, B. C., Barty, C. P. J., *Precision short-pulse damage testing of advanced multilayer dielectric gratings for high-energy petawatt lasers*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-206942, International

Conference on Ultrahigh Intensity Lasers: Development, Science, and Emerging Applications, Tahoe City, CA, October 3–7, 2004.

Brugman, V.P., Lee, T.L., *NIF Coordinate Systems - Introduction to NIF and Other Information for Target Experimental Systems Designers*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204383.

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Campbell, J. H., *The challenge of building the world's largest laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-203688.

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Candy, J. V., Mcclay, W. A., Awwal, A. A. S., Ferguson, S. W., *Optimal Centroid Position Estimation*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-205577.

Candy, J. V., Mcclay, W. A., Awwal, A. A. S., Ferguson, S. W., *Optimal Position Estimation for the Automatic Alignment of a High Energy Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JRNL-205575, July 28, 2004.

Carr, C. W., Demos, S. G., Demange, P. P., Radousky, H. B., Feit, M. D., Rubenchik, A. M., *Change in the nature of emission from optical breakdown induced by pulses from fs to ns duration*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205042, Boulder Damage Symposium XXXVI, Boulder, CO, September 20–22, 2004.

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Chen, H.-L.; Rankin, J. Hackel, L.; *Laser peening of Alloy 600 to improve intergranular stress corrosion cracking resistance in power plant*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-203826, 6th International EPRI Conference, Sandestin, FL, June 16–18, 2004.

Chen, H.L., *Laser-Assisted Boring Concept*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204715.

Chen, H.L., *Laser Peening of Alloy 600 to Improve Intergranular Stress-Corrosion-Cracking Resistance in Power Plants*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-204721.

Chen, K. C., General Atomics; Vermaak, N., General Atomics; Nikroo, A., General Atomics; Takagi, M., LLNL; Day, K., LLNL; Letts, S., LLNL; Cook, R., LLNL; *CH Shell Development for the National Ignition Facility*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ABS-205362, 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, November 15–19, 2004.

Cherepy, N. J., Shen, T. H., Esposito, A. P., Tillotson, T. M., *Characterization of an Effective Cleaning Procedure for Aluminum Alloys: Surface Enhanced Raman Spectroscopy and ZETA Potential Analysis*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JRNL-204577, July 27, 2004.

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Cook, B., *Measurement of Cu-Doped Be Gradient Steps in Sputtered Be Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-TR-203445.

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Dewald, E.L., LLNL; Campbell, K.M., LLNL; Turner, R.E., LLNL; Holder, J.P., LLNL; Landen, O.L., LLNL; Glenzer, S.H., LLNL; Kauffman, R.L., LLNL; Suter, L.J., LLNL; Landon, M., LLNL; Rhodes, M., LLNL; Lee, D., LLNL; *Dante Soft X-ray Power Diagnostic for NIF*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-CONF-203612, 15th Topical Conference on High Temperature Plasma Diagnostics, San Diego, CA, April 19–22, 2004.

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