

## Publication List

### April–September 2003

#### A

Alouani-Bibi, A., Matte, J-P., Braun, D. G., Edwards, M. J., Suter, L. J., *Electron Transport in Long Pulse, High Intensity Laser-Plasma Interaction*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-155052-ABS. Prepared for the 45th Annual Mtg of the American Physical Society Div of Plasma Physics, Albuquerque, NM, Oct 27–31, 2003.

Amendt, P., Bradley, D., Collins, R., and Haan, S., *Analysis of Mass Ablation BLIMPS on Omega*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-153414. Prepared for CEA-DOE Workshop, Paris, France, May 12–15, 2003.

Amendt, P., Celliers, P., Collins, G., Haan, S., and Landen, N., *Convergent Shock-Timing Experiments on Omega*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-153412. Prepared for CEA-DOE Workshop, Paris, France, May 12–15, 2003.

Amendt, P., *Measured Secondary Neutron Spectra Suggest more Tritium Slowing than Predicated*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-153929.

#### B

Back, C. A., Hammer, J. H., Bauer, J. D., Castor, J. I., Maclaren, S., Constantin, C., Landen, O. L., Hsing, W. W., *Experiments Investigating the Radiative-Hydrodynamics of a Decaying Shock Wave*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154201-ABS. Prepared for the 45th Annual Mtg of the American Physical Society Div of Plasma Physics, Albuquerque, NM, Oct 27–31, 2003.

Bennett, G. R., Landen, O., Adams, R. F., Porter, J. L., Ruggles, L. E., Simpson, W. W., and Wafefield, C., *X-Ray Imaging Techniques on Z Using the Z-Beamlet Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153744. Submitted to *Rev. Sci. Instrum.*

Berger, R., Valeo, E., *Stimulated Scattering of Light from Ion Acoustic Waves in Collisional Multi-Species Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153987-ABS. *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Bibi, F. A., Matte, J. P., Braun, D. G., Edwards, M. J., and Sutter, L. J., *Simulations of High Intensity, Long Pulse, Planar Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-153719. Prepared for *33rd Annual Anomalous Absorption Conf*, Lake Placid, NY, Jun 22–27, 2003.

Bittner, D., Burmann, J., Moody, J., and Unites, W., *Parametric Study of Infrared Layering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152370-ABS-REV-1. Prepared for *15th Target Fabrication Specialists Mtg*, Gleneden Beach, OR, Jun 1–5, 2003.

Blue, B., Hansen, F., Robey, H., Miles, A., Klein, R., McKee, C., *Interaction of a Supernova Shock with an Interstellar Cloud*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154200-ABS. *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Bourgade, J. L., Villette, B., Boucher, J. L., Boutin, J. Y., Chiche, S., Dague, N., Gontier, D., Jadaud, J. P., Savale, B., Wrobel, R., and Turner, R. E., *DMX: An Absolutely Calibrated Time-Resolved Broadband Soft X-Ray Spectrometer Design for MJ Class Laser-Produced Plasmas*,

Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153740. Submitted to *Rev. Sci. Instrum.*

## C

Calder, A. C., Fryxell B., Plewa, T., Rosner R., Dursi L. J., Weirs V. G., Dupont T., Zingale M., Timmes F. X., Olson K., Ricker P., Tufo H. M., Robey H. F., Kane J. O., Dimonte G., Drake R. P., Macneice P., Remington B. A., *On Validating an Astrophysical Simulation Code*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153235. Submitted to *Astrophysical Journal Supplement Series*.

Campbell, K. M., Weber, F. A., Dewald, E. L., Waide, P. A., Landen, O. L., Glenzer, S. H., *Calibration and Repeatability of the Dante Soft X-Ray Spectrometer in Hohlraum Experiments at the Nova, Omega and NIF Laser Facilities*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154233-ABS. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Constantin, C., Back, C. A., Fournier, K. B., Miller, M., Landen, O. L., *Investigations of Supersonic Radiation Waves in Under-Dense Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154235-ABS. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Cook, R., Anthamatten, M., Letts, S., Nikroo, A., and Czechowicz, D., *IR Absorptive Properties of Plastic Materials Used in ICF Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152584-ABS. Prepared for *15th Target Fabrication Specialists Mtg*, Glendon Beach, OR, Jun 1–5, 2003.

## D

Dewald, E. L., Pollaine, S. M., Landen, O. L., Turner, R. E., Wallace, R. J., Amendt, P. A., Campbell, K. M., Glenzer, S. H., *First Gas Hydro-Coupling Studies and its Effects on Compression Symmetry in Indirect Drive Implosion Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154516-ABS. Prepared for the *45th Annual Meeting of the Division of Plasma Physics*, Albuquerque, NM, Oct 27–31 2003.

Dewalds, E. L., Pollaine, S. W., Landen, O. L., Amendt, P A., Turner, R E., Wallace, R., Campbell, K. M., Glenzer, S. H., *Hydro-Coupling Effects on Compression Symmetry in Gas-Filled Hohlraum Experiments at the Omega Laser*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-155167. Prepared for the *3rd International Conference on Inertial Fusion Sciences Applications*, Monterey, CA, Sep 7–12, 2003.

Divol, L., Moody, J., Froula, D., Gregori, G., Mackinnon, A., Suter, L., Glenzer, S., *Detailed Analysis of Backscattering Measurements for 351 nm and 527 nm Light from Gasbag Targets*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154237-ABS. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Divol, L., Williams, E. A., Cohen, B. I., Langdon, A B., Lasinski, B F., *A Reduced Model of Kinetic Effects Related to the Saturation of Stimulated Brillouin Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-155169. Prepared for the *3rd International Conference on Inertial Fusion Sciences Applications*, Monterey, CA, Sep 7–12, 2003.

Drake, R. P., Remington, B. A., and Ryutov, D. D., *Experimental Astrophysics with Intense Lasers*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153579. Submitted to *Rev. Mod. Phys.*

## F

Fetterman, A., Haan, S., Marinak, M., *Hydra Simulations of Graded Doped Be(CU) Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-155224. Prepared for the *3rd International Conference on Inertial Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

Fraze, R., Bernat, T., Brugman, V., Debeling, A., Haid, B., and Stewart, J., *MK-1 Closed Cycle Cryostat*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153398-ABS. Prepared for *15th Target Fabrication Specialists Mtg*, Gleneden Beach, OR, Jun 1–5, 2003.

Froula, D. H., Divol, L., Price, D., Gregori, G., Williams, E. A., Glenzer, S. H., *Stimulated Brillouin Scattering from Helium-Hydrogen Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-151256. Prepared for the *3rd International Conference on Inertial Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

## G

Geddes, C. G. R., Kirkwood, R. K., Glenzer, S. H., Estabrook, K., Cohen, B. I., Young, P. E., Joshi, C., Wharton, K. B., *Observation of Ion Wave Decay Products of Langmuir Waves Generated by Stimulated Raman Scattering in Ignition Scale Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-140379-REV-1. Submitted to *Phys. of Plasmas*.

Gies, A. P., Nonidez, W. K., Anthamatten, M., and Cook, R., *Characterization of the Imidization of Poly(amic acid) to an Insoluble Polyimide Oligomer by Matrix Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-153045-ABS. Prepared for *226th American Chemical Society Natl Mtg*, New York, NY, Sept 7–11, 2003.

Glenzer, S. H., *X-ray Thomson Scattering on Solid Density Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-151045-ABS-REV-1. Prepared for *33rd Anomalous Absorption Conf*, Lake Placid, NY, Jun 22–27, 2003.

Gregori, G., Borders, T M., Glenzer, S. H., Niemann, C., Campbell, K., Landen, O. L., *X-Ray Scattering from Cold and Dense Matter*, UCRL-PROP-154009

Gregori, G., Glenzer, S. H., Knight, J., Niemann, C., Price, D., Froula, D. H., Edwards, M. J., Town, R. P J., Brantov, A., Bychenkov, V. Y., Rozmus, W., *Direct Observation of a Nonlocal Heat Wave*, UCRL-JC-152386. Submitted to *Phys. Rev. Letters*.

Gregori, G., Glenzer, S. H., Knight, J., Niemann, C., Price, D., Froula, D. H., Edwards, J., Town, R. P J., Brantov, A., Bychenkov, V. Y., Rozmus, W., *Measurement of Heat Propagation in a Laser Produced Plasma*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-155168. Prepared for the *3rd International Conference on Inertial Fusion Sciences Applications*, Monterey, CA, Sep 7–12, 2003.

Gregori, G., Glenzer, S. H., Rogers, F. J., Landen, O. L., Blancard, C., Faussurier, G., Renaudin, P., Kuhlbrodt, S., Redmer, R., *Electronic Structure Measurement of Solid Density Plasmas using X-Ray Scattering*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152388. Prepared for the *3rd International Conference on Inertial Fusion Sciences Applications*, Monterey, CA, Sep 7–12, 2003.

## H

Haan, S. W., Amendt, P A., Collins, G W., Dittrich, T R., Fetterman, A. J., Glendinning, S G., Herrmann, M C., Hurricane, O A., Marinak, M M., Munro, D., Salmonson, J. D., Strobel, G A., Suter, L J., *Simulations of Ignition Capsule Implosions and of Omega Rayleigh Taylor*

*Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-151985-ABS-REV-1. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Haan, S., Dittrich, T., Herrmann, M., Strobel, G., Suter, L., Marinak, M., Amendt, P., Pollaine, S., Munro, D., Hatchett, S., and Hurricane, O., *Update on NIF Indirect Drive Ignition Target Fabrication Specifications*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-144266-REV-1. Prepared for *15th Target Fabrication Specialists Mtg*, Glenden Beach, OR, Jun 1–5, 2003.

Haan, S., Fetterman, A., Dittrich, T., Hatchett, S., Herrmann, M., Jones, O., Marinak, M., Munro, D., Suter, L., *Indirect Drive Ignition Target Design*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-155228. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

Haan, S., Glendinning, G., Bradley, D., Amendt, P., Wallace, R., Collins, R., *Planar Indirect Drive Ablative Rayleigh-Taylor Experiments on Omega*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-155225. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

Haid, B., Bernat, T., Brugman, V., Debeling, A., Stewart, J., and Frazee, R., *A Comparison of Liquid Helium-Based and Cryocooler-Based Target Cryostat Designs*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-153303. Prepared for *15th Target Fabrication Specialists Mtg*, Glenden Beach, OR, Jun 1–5, 2003.

Hansen, J F., Edwards, M. J., Robey, H F., Miles, A R., Froula, D., Gregori, G., Edens, A., Ditmire, T., *Laboratory Simulations of Supernova Shockwave Propagation and ISM Interaction*,

Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152369. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

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Herrmann, M. C., Haan, S., *Exploration of the Parameter Space for NIF Ignition Capsules*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-152010. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

## I

Izumi, N., Turner, R E., Landen, O. L., Wallace, R J., Koch, J A., *Evaluation of Laser Light Specularly Reflected by the Hohlraum Surface on OMEGA Indirect Implosion Experiments*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154236-ABS. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

## J

Jones, O. S., Amendt, P. A., Pollaine, S. M., Herrmann, M. C., Haan, S. W., Suter, L. J., Lindl, J. D., Hammel, B. A., *Symmetry Tuning of NIF Ignition Targets*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-155217. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.



Jones, O. S., Glenzer, S. H., Suter, L. J., Turner, R. E., Campbell, K. M., Dewald, E. L., Hammel, B. A., Kauffman, R. L., Landen, O. L., Rosen, M. D., Wallace, R. J., and Weber, F. A., *Measurement of the Absolute Hohlraum Wall Albedo Under Ignition Foot Drive Conditions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-153410. Prepared for *33rd Anomalous Absorption Conf*, Lake Placid, NY, Jun 22–27, 2003.

Jones, O. S., Glenzer, S. H., Suter, L. J., Turner, R. E., Campbell, K. M., Dewald, E. L., Hammel, B. A., Hammer, J. H., Kauffmann, R. L., Landen, O. L., Rosen, M. D., Wallace, R. J., Weber, F. A., *Measurement and Calculation of NIF Hohlraum Wall Albedos*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154404-ABS. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

Jones, O. S., Glenzer, S. H., Suter, L. J., Turner, R. E., Campbell, K. M., Dewald, E. L., Hammel, B. A., Kauffman, R. L., Landen, O. L., Rosen, M. D., Wallace, R. J., Weber, F. A., *Measurement of the Absolute Hohlraum Wall Albedo Under Foot Drive Conditions*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-155218. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications*, Monterey, CA, Sep 7–12, 2003.

## K

Key, M. H., Amiranoff, F., Andersen, C., Batani, D., Baton, S. D., Cowan, T., Fisch, N., Freeman, R., Gremillet, L., Hall, T., Hatchett, S., Hill, J., King, J., Kodama, R., Koch, J., Koenig, M., Lasinski, B., Langdon, B., MacKinnon, A., Martinolli, E., Norreys, P., Parks, P., Perelli-Cippo, E., Rabec Le Gloahec, M., Rosenbluth, M., Rousseaux, C., Santon, J. J., Scianitti, F., Snavely, R., Tabak, M., Tanaka, K., Town, R., Tsutumi, T., and Stephens, R., *Progress in Concept Exploration Studies of Fast Ignition*, Lawrence Livermore National

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King, J. A., *Ti K-Alpha Radiography of Imploding Cu Doped CD Shells and Coned Shells*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152609-ABS. Prepared for *2003 3rd Intl Conf on Inertial Fusion Sciences and Applications*, Monterey, CA, Sept 7–12, 2003.

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Kirkwood, R. K., Moody, J. D., Niemann, C., Cohen, B. I., Williams, E. A., Dorr, M. R., Hittinger, J. A., Meezan, N., Berger, R., Suter, L. J., Divol, L., Glenzer, S. H., Landen, O. L., Wurtele, J., Charman, A. E., Lindberg, R., Fisch, N. J., Malkin, V. M., *Studies of Linear and Non-Linear Beam Transmission in Plasmas Driven with Multiple Laser Beams*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154232-ABS. Prepared for the

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Knight, J., Gregori, G., Glenzer, S. H., Niemann, C., Price, D., Froula, D. H., Edwards, M. J., Town, R. P. J., Brantov, A., Bychenkov, V. Y., Rozmus, W., *Direct Observation of a Nonlocal Heat Wave*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152386-ABS-REV-1. Prepared for the *45th Annual Mtg of the American Physical Society Div of Plasma Physics, Albuquerque, NM, Oct 27–31, 2003.*

Koch, J. A., Barbee, T. W. Jr., Dalhed, S., Haan, S., Izumi, N., Lee, R. W., Welser, L., McCrorey, D. L., Mancini, R. C., Marshall, F., Meyerhoffer, D., Sangster, C., Smalyuk, V., Soures, J., Klein, L., *Core Temperature and Density Profiles from Multispectral Imaging of ICF Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-155163. Prepared for the *3rd International Conference on Inertial Fusion Sciences and Applications, Monterey, CA, Sep 7–12, 2003.*

Koch, J. A., Haan, S. W., and Mancini, R. C., *Multispectral Imaging of Continuum Emission for Determination of Temperature and Density Gradients Inside Implosion Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-152612. Submitted to *J. Quant. Spectros. Radiat. Transfer*.

Kozioziemski, B. J., *Re-Assessing the Maximum Allowed Infrared (IR) Power for Enhanced Layering in a Conduction Dominated Cryogenic NIF-Scale Hohlraum*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-ID-155175.

Kozioziemski, B. J., London, R. A., McEachern, R. L., Bittner, D. N., *Demonstration of Symmetry Control of Infrared Heated Deuterium Layers in Hohlraums*, Lawrence Livermore

National Laboratory, Livermore, CA, UCRL-JC-154640. Submitted to *Fusion Science and Technology*.

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## L

Landen, O., Back, C. A., Bauer, J. D., Faussurier, S. H., Glenzer, S. H., Gregori, G., Hammer, J. H., Pollaine, S. M., and Rogers, F. J., *Energy Transport and Ionization Balance in Isochorically Heated Dense Plasmas*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-PRES-150199. Prepared for *American Physical Society Mtg*, Philadelphia, PA, Apr 6–9, 2003.

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## M

Mackinnon, A. J., Patel, P. K., Borghesi, M., Romagnani, L., Prestzler, G., Willi, O., Hicks, D., Key, M. H., Price, D W., Hatchett, S., Town, R. P., Lasinski, B., Langdon, B., Wilks, S. C., King, J., Snavely, R., Freeman, R., Koenig, M., Martinolli, M., Audebert, P., Gauthier, J. C., *Development of Proton Probing for Diagnosing Plasmas and Shocked Materials*, Lawrence Livermore National Laboratory, Livermore, CA, UCRL-JC-154231-ABS. *45th Annual Mtg of the American Physical Society Div of Plasma Physics*, Albuquerque, NM, Oct 27–31, 2003.

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