

Cover Photos

Top left: The off-axis parabola (OAP) optic is being moved into position in the OMEGA Target Bay. The optic was installed for joint OMEGA and OMEGA EP shots.

Middle Left: High school student Rachel Kurchin (The Harley School) examines a spherical target inside a glass hohlraum. Rachel was one of 15 students participating in the 2008 Summer High School Research Program. She is also one of two students from LLE's summer program selected as a semifinalist in the Intel Science Talent Search.

Middle center: The lower housing of a neutron time-of-flight (nTOF) detector shown shortly after being machined at LLE. The completed nTOF will be used to obtain ion temperatures from integrated fast-ignition experiments on OMEGA. It will also be used as an nTOF detector prototype for downscattered-neutron measurements on the NIF.

Bottom left: The OMEGA EP Laser System was completed on time and within budget and initial experiments were started in the fourth quarter of FY08.

Top right: On 16 May 2008, Dr. Robert McCrory, Vice Provost, Director, and CEO of the Laboratory for Laser Energetics (LLE), along with special guests, which included University of Rochester President Joel Seligman and University Provost Ralph Kuncel, U.S. Senator Charles Schumer, U.S. Congressman Thomas Reynolds, and Undersecretary for Nuclear Security for the U.S. Department of Energy Thomas D'Agostino, dedicated the new OMEGA EP laser at the Robert L. Sproull Center for Ultra High Intensity Laser Research at the Laboratory for Laser Energetics. Senator Charles Schumer is shown giving the keynote address at the dedication ceremony.

Middle right: NIF PAM arrived at LLE for integration into the OMEGA EP Laser System. It was installed in the OMEGA EP Sources Bay and will be used for beam-smoothing studies.

Bottom right: An image of one of the first short-pulse target shots on OMEGA EP.

Prepared for
U.S. Department of Energy
San Francisco Operations Office
DOE/SF/19460-798

Distribution Category
October 2007–September 2008

Printed in the United States of America
Available from
National Technical Information Services
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

Price codes: Printed Copy A12
Microfiche A01

This report was prepared as an account of work conducted by the Laboratory for Laser Energetics and sponsored by New York State Energy Research and Development Authority, the University of Rochester, the U.S. Department of Energy, and other agencies. Neither the above named sponsors, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, mark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or any other sponsor. Results reported in the LLE Review should not be taken as necessarily final results as they represent active research. The views and opinions of authors expressed herein do not necessarily state or reflect those of any of the above sponsoring entities.

The work described in this volume includes current research at the Laboratory for Laser Energetics, which is supported by New York State Energy Research and Development Authority, the University of Rochester, the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302, and other agencies.

For questions or comments, Laboratory for Laser Energetics,
250 East River Road, Rochester, NY 14623-1299, (585) 275-5286.
Worldwide-Web Home Page: <http://www.lle.rochester.edu/>