

Abstract Submitted  
for the DPP08 Meeting of  
The American Physical Society

**Initial Experiments Using the OMEGA EP Laser System** D.D. MEYERHOFER, T.R. BOEHLY, R. BETTI, V.YU. GLEBOV, J.H. KELLY, J.P. KNAUER, S.J. LOUCKS, R.L. MCCRORY, S.F.B. MORSE, J.F. MYATT, P.M. NILSON, S.P. REGAN, T.C. SANGSTER, V.A. SMALYUK, C. STOECKL, W. THEOBALD, Laboratory for Laser Energetics, U. of Rochester — The OMEGA EP Laser System was completed in April 2008 as a significant enhancement of the OMEGA Laser System. It consists of four NIF-like beamlines, two of which can be operated as high-energy petawatt laser beams. The initial experimental plan includes developing bright backlighter sources (line and bremsstrahlung), isochoric heating, hot-electron conversion-efficiency measurements (to compare with results from other systems), long-pulse LPI at NIF-relevant scale lengths, and fast-ignition integrated experiments using cone-in-shell targets. Backlighter experiments are designed to optimize the fluence for cryogenic implosion core radiography. This talk will describe the current status of the OMEGA EP Laser System and some initial target-physics experiments. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

David Meyerhofer  
Laboratory for Laser Energetics, U. of Rochester

Date submitted: 15 Jul 2008

Electronic form version 1.4