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Status of the OMEGA EP Laser System D.D. MEYERHOFER, S.-W. BAHK, J. BROMAGE, C. DORRER, J.H. KELLY, B.E. KRUSCHWITZ, S.J. LOUCKS, R.L. MCCRORY, S.F.B. MORSE, J. QIAO, C. STOECKL, L.J. WAXER, J.D. ZUEGEL, Laboratory for Laser Energetics, U. of Rochester — The performance and experimental capabilities of the OMEGA EP Laser System continue to improve. The system, with four NIF-like beams, was completed in April 2008. All four beams can be operated at 351 nm into the OMEGA EP target chamber, with a total of 14 kJ in a 10-ns pulse and 6.3 kJ in a 2-ns pulse. Each UV beamline supports 100-ps operations with 100 J per beam. Two of the beams can be operated as high-energy-petawatt lasers (HEPW), with a maximum current energy of 1.5 kJ in a 1053-nm, 10-ps pulse. The HEPW beams can be directed into the OMEGA EP target chamber or into the 60-beam OMEGA target chamber for experiments that combine target compression with HEPW capability. The current and projected status of the laser system performance, laser and target diagnostics, and experimental capabilities will be presented. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

D.D. Meyerhofer
Laboratory for Laser Energetics, U. of Rochester

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