

Abstract Submitted
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OMEGA EP OPAL: A Path to a 100-PW Laser System D.D. MEYERHOFER, S.-W. BAHK, J. BROMAGE, D.H. FROULA, D. HABERBERGER, S.X. HU, B.E. KRUSCHWITZ, R.L. MCCRORY, J.F. MYATT, P.M. NILSON, J.B. OLIVER, C. STOECKL, W. THEOBALD, L.J. WAXER, J.D. ZUEGEL, Laboratory for Laser Energetics, U. of Rochester — The four-beam OMEGA EP Laser System at the Laboratory for Laser Energetics could be reconfigured to pump an optical parametric chirped-pulse-amplification (OPCPA) laser system. Current estimates suggest that energies in excess of 2 kJ in a 20-fs pulse would be possible with four-beam pumping. This could lead to peak intensities above 10^{23} W/cm². Additional configurations could include two femtosecond beams, or a combination of femtosecond, picosecond, and nanosecond kilojoule-class laser beams. This talk will describe the potential system and some of the physics opportunities for which it would provide access. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

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