Abstract Submitted
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High-Intensity Shock-Ignition Experiments in Spherical and Planar Geometry W. THEOBALD, M. HOHENBERGER, K.S. ANDERSON, R. BETTI, T.R. BOEHLY, J.A. DELETTREZ, V.YU. GLEBOV, V.N. GONCHAROV, S.X. HU, F.J. MARSHALL, D.D. MEYERHOFER, R. NORA, T.C. SANGSTER, W. SEKA, C. STOECKL, B. YAAKOBI, Laboratory for Laser Energetics, U. of Rochester, A. CASNER, CEA, J.A. FRENJE, PSFC, MIT, M. LAFON, X. RIBEYRE, G. SCHURTZ, CELIA — Shock ignition[1] has recently gained much attention as an inertial confinement fusion concept that assembles thermonuclear fuel to high areal densities and then ignites it by launching a strong shock wave into compressed fuel. OMEGA experiments study the shock-ignition concept using various types of adiabat-shaping laser pulses and a high-intensity spike. High-intensity laser–plasma interaction experiments in spherical and planar geometries provide valuable data on backscattering, fast-electron generation, and shock-wave timing for intensities $>1 \times 10^{15}$ W/cm^2. A significant energy transfer into fast electrons was measured with hot-electron temperatures >100 keV in planar targets and ~50 keV in spherical targets. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

[1]R. Betti *et al.*, Phys. Rev. Lett. **98**, 155001 (2007).

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