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Analysis of Fast Electrons in Shock-Ignition Implosions on OMEGA R. NORA, W. THEOBALD, R. BETTI, J.A. DELETTREZ, M. LAFON, Laboratory for Laser Energetics and Fusion Science Center, U. of Rochester — We present an analysis on the effects of fast electrons in shock-ignition inertial confinement implosions on OMEGA. In direct-drive configuration, electrons in the corona can be accelerated to tens of keV's via laser–plasma instabilities, such as two-plasmon decay and stimulated Raman scattering. These moderately hot electrons have the potential to quench ignition if directed into the target and their energy is deposited into the cold fuel, resulting in a significantly higher adiabat. Alternatively, in shock-ignition implosions these hot electrons can strengthen the ignitor shock if their energy is below ∼100 keV.[1] We present experimental hard x-ray data that indicates ∼40-keV Maxwellian electrons are generated with a conversion efficiency of 5% to 15%, as well as correlations between the hard x-ray signal and several important implosion parameters. *LILAC* simulations with the inclusion of hot electrons are shown to agree with the experimental results. 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.*, J. Phys., Conf. Ser. **112**, 022024 (2008).

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