

Abstract Submitted
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Analysis of the Compressibility Experiments Performed on the OMEGA Laser System S.X. HU, V.N. GONCHAROV, V.A. SMALYUK, J.P. KNAUER, T.C. SANGSTER, Laboratory for Laser Energetics, U. of Rochester — Successful compression of inertial confinement fusion (ICF) targets to the densities and pressures needed for ignition and burn requires an understanding of how compression and shock waves propagate in the shell. A series of compressibility experiments on planar plastic foils (CH) have been conducted on the OMEGA Laser Facility to test the predictive capabilities of the hydrodynamic codes. The foils were driven using both square (high-adiabat) and shaped (low-adiabat) pulses. Density profiles of the laser-driven CH targets are measured using x-ray radiography. Comparisons between 1-D *LILAC* simulations and experimental observations suggested that 2-D effects may be important. Simulations and analyses of these experiments are further performed using the 2-D hydrocode *DRACO*. Direct comparison of the simulation results to experimental measurements will be presented. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

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