Abstract Submitted
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Numerical Investigation of Shock-Release OMEGA EP Experiments A. SHVYDKY, D. HABERBERGER, J.P. KNAUER, S.X. HU, J. CARROLL-NELLENBACK, D. CAO, I.V. IGUMENSHCHEV, V.V. KARASIEV, A.V. MAXIMOV, R.B. RADHA, V.N. GONCHAROV, D.H. FROULA, Laboratory for Laser Energetics — Release of shocked material from the inner side of the shell after the shock breakout is an important process in an inertial confinement fusion implosion that affects formation of the hot spot and implosion performance. Experiments on OMEGA EP at the Laboratory for Laser Energetics used the 4ω interferometry to measure the low-density profile of the plasma in the rarefaction wave that follows the shock breakout from the back side of a CH shell driven by two OMEGA EP beams. The shell trajectory was measured using x-ray radiography. Results of radiation-hydrodynamic code *DRACO* simulations of the evolution of the density profile in the rarefaction wave will be presented and compared with experimental data. Sensitivity of the density profile to the equation of state, electron thermal transport, and other physics will be discussed. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0003856.

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