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Three-Dimensional Analysis of the Effects of Low-Mode Asymmetries on OMEGA Cryogenic Implosions K.S. ANDERSON, P.W. MCKENTY, A. SHVYDKY, J.P. KNAUER, T.J.B. COLLINS, Laboratory for Laser Energetics, U. of Rochester, M.M. MARINAK, LLNL — Understanding the role of low-mode asymmetries is essential to characterizing inertial confinement fusion implosions. Asymmetries seeded by nonuniformities in laser drive, capsule manufacture, and target positioning lead to shell modulation as well as nonradial hydrodynamic flow in the hot spot at stagnation, which can adversely affect peak pressure and neutron yield. Full-sphere three-dimensional simulations are required to quantify the flow in the hot spot and its impact on hot-spot pressure and other observables. This paper will analyze results from *HYDRA* simulations of OMEGA cryogenic implosions modeling various sources of low-mode asymmetries (e.g., target offset, laser power imbalance, ice layer roughness) and show comparisons with experimental observables. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Numbers DE-NA0001944 and performed under the auspices of the LLNL under Contract No. DE-AC52-07NA27344.

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