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Characterizing Hot-Spot Dynamics of Direct-Drive Cryogenic Implosions on OMEGA K.S. ANDERSON, P.W. MCKENTY, A. SHVYDKY, J.P. KNAUER, T.J.B. COLLINS, J.A. DELETTREZ, D. KELLER, Laboratory for Laser Energetics, U. of Rochester, M.M. MARINAK, LLNL — In direct-drive inertial confinement fusion, nonuniformities in laser drive, capsule manufacture, and target positioning lead to non-radial hydrodynamic flow in the hot spot at stagnation. Characterizing such flow in the hot spot requires simulating the entire capsule in three dimensions to remove symmetry boundary conditions, which artificially constrain hot-spot flow. This paper will present results from 3-D simulations of cryogenic implosions on OMEGA using *HYDRA*. Low-mode asymmetries and their contributions to residual hot-spot kinetic energy will be discussed. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944 and performed under the auspices of LLNL under Contract No. DE-AC52-07NA27344.

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