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Initial 3-D HYDRA Simulations of OMEGA Cryogenic Implosions P.W. MCKENTY, K.S. ANDERSON, V.N. GONCHAROV, D.H. EDGELL, D.D. MEYERHOFER, T.C. SANGSTER, R.L. MCCRORY, Laboratory for Laser Energetics, U. of Rochester, M.M. MARINAK, LLNL — The Laboratory for Laser Energetics continues to examine the performance of cryogenically fueled D_2 and DT direct-drive capsule implosions. Of particular concern is the interplay between the initial uniformity of the ice layer which is usually directed into a north–south attitude and the target offset nonuniformity, that is mainly an east–west perturbation. Such combinations are inherently three-dimensional in nature and have not previously been accurately examined. This paper will first present a comparison of the results from both 2-D and 3-D simulations of target offset. Additional 3-D results will then be presented examining the combined effect of target offset and ice-layer smoothness on target performance. These 3-D results will be compared with 2-D simulations to examine the differences made when approximations to 3-D perturbations are applied to the 2-D simulations. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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