

Abstract Submitted
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Symmetry tuning for DIME Campaign NATALIA KRASHENINNIKOVA, MARK SCHMITT, IAN TREGILLIS, P. BRADLEY, J. COBBLE, G. KYRALA, T. MURPHY, K. OBREY, S. HSU, R. SHAH, S. BATHA, Los Alamos National Laboratory, S. CRAXTON, P. MCKENTY, Laboratory for Laser Energetics — Defect Induced Mix Experiment (DIME) investigates the effects of 4 pi as well as surface feature-driven mix on the directly driven ICF capsule implosion. To minimize the effects of the laser-drive asymmetry, beam pointings, pulse shape, and the energy distribution between the lasers need to be optimized for a particular capsule and shot energy. In support of the DIME experimental campaigns on OMEGA and NIF, symmetry tuning was performed with the rad-hydro code HYDRA. To assess the impact on the symmetry, synthetic radiographs and self-emission images were examined and compared with the experimental results from OMEGA and NIF shots. The dynamics of the capsules imploded under polar direct drive conditions were compared with symmetrically driven ones and the effects of cross-beam transfer and the laser imprinting on the symmetry were also investigated. Work performed by Los Alamos National Laboratory under contract DE-AC52-06NA25396 for the National Nuclear Security Administration of the U.S. Department of Energy.

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