

Abstract Submitted
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Irradiation Uniformity in Direct-Drive Simulations Using 3-D Ray Trace A. SHVYDKY, D. KELLER, J.A. MAROZAS, P.W. MCKENTY, S. SKUPSKY — A crucial component in calculating the drive uniformity in ICF simulations with direct illumination is a detailed treatment of laser-ray propagation through the plasma atmosphere using information about the orientation of the individual laser beams and nonuniformity structure on the beams. The resulting nonuniformity in laser deposition can contain short-wavelength structure that would not appear in uniformity estimates that simply project laser beams onto a sphere. Further, the ray-trace simulations can be sensitive to details of how well the region around critical density has been resolved in the hydrodynamic simulation. The sensitivity of the resulting target drive to the numerical modeling of the ray-trace physics is discussed. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement DE-FC52-92SF19460.

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