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Simulations of Shock-Ignition Targets for the NIF K.S. ANDERSON, R. BETTI, Laboratory for Laser Energetics and Fusion Science Center for Extreme States of Matter, U. of Rochester, R.S. CRAXTON, T.J.B. COLLINS, J.A. MAROZAS, P.W. MCKENTY, S. SKUPSKY, Laboratory for Laser Energetics, U. of Rochester, L.J. PERKINS, LLNL — Shock ignition[1] is a low-drive energy alternative to standard hot-spot ignition at the National Ignition Facility (NIF). A cryogenic shock-ignition design for the NIF with a thick plastic ablator is described. The target is driven by a triple-picket pulse shape[2] to simplify shock tuning and improve stability via adiabat shaping.[3,4] Results from one- and two-dimensional simulations will assess the robustness of this target due to various sources of nonuniformity including ice roughness, beam geometry, laser power balance, laser imprint, and hot-electron energy deposition. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302 and DE-FC02-04ER54789.

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