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Direct-Drive Fuel-Assembly Simulations of Fast-Ignition Cone-in-Shell Implosions K.S. ANDERSON[1], P.W. MCKENTY, R. BETTI[2], Laboratory for Laser Energetics, U. of Rochester, M.M. MARINAK, LLNL — Cone-in-shell experiments are being designed for fast-ignition (FI) experiments on OMEGA EP. The basic cone-in-shell design consists of a high-density (e.g., gold) cone embedded in the capsule, with the cone tip near the center of the capsule to allow the injection of a high-intensity ignitor beam close to the compressed high-density fuel mass. The presence of the gold cone causes a deviation from a spherical implosion, leading to lower fuel densities and areal densities. Two-dimensional (2-D) hydrodynamic simulations of FI cone implosions are required both to explore the parameter space (e.g., capsule design, laser pulse shape, and pointing) and to optimize the FI fuel assembly. Furthermore, such simulations are crucial to quantify the initial conditions for integrated FI simulations including fast-electron transport. Current work on 2-D, FI cone-in-shell simulations is presented. This work was supported by the U.S. Department of Energy under Cooperative Agreements DE-FC52-92SF19460 and DE-FC02-04ER54789.

[1]Also Fusion Science Center, U. of Rochester
[2]Also, Fusion Science Center, U. of Rochester

K.S. Anderson
Laboratory for Laser Energetics, U. of Rochester

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