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Three-dimensional Low Mode ICF Target Simulations DAVID FYFE, ANDREW SCHMITT, Naval Research Laboratory, JOHN GARDNER, Berkeley Research Associates, DENIS COLOMBANT, Naval Research Laboratory — This paper describes the application of a three-dimensional radiation hydrodynamics code to problems typical of ICF pellet design. The compressible hydrodynamics code, FastRad3D, contains most of the physical effects relevant for the simulation of high-temperature plasmas including inertial confinement fusion (ICF)-regime Rayleigh-Taylor unstable direct drive laser targets The calculations show the effects of low mode surface non-uniformities and laser intensity non-uniformities on gain for a typical ICF pellet designs. The 3D results are compared to previous results from 2D and 1D calculations.

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