

Abstract Submitted
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Validating Inertial Confinement Fusion (ICF) predictive capability using perturbed capsules¹ MARK SCHMITT, GLENN MAGELSEN, IAN TREGILLIS, SCOTT HSU, PAUL BRADLEY, EVAN DODD, JAMES COBBLE, KIRK FLIPPO, DUSTIN OFFERMAN, KIMBERLY OBREY, YI-MING WANG, ROBERT WATT, MARK WILKE, FREDERICK WYSOCKI, STEVEN BATHA, Los Alamos National Laboratory — Achieving ignition on NIF is a monumental step on the path toward utilizing fusion as a controlled energy source. Obtaining robust ignition requires accurate ICF models to predict the degradation of ignition caused by heterogeneities in capsule construction and irradiation. LANL has embarked on a project to induce controlled defects in capsules to validate our ability to predict their effects on fusion burn. These efforts include the validation of feature-driven hydrodynamics and mix in a convergent geometry. This capability is needed to determine the performance of capsules imploded under less-than-optimum conditions on future IFE facilities. LANL's recently initiated Defect Implosion Experiments (DIME) conducted at Rochester's Omega facility are providing input for these efforts. Recent simulation and experimental results will be shown.

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