

Abstract Submitted  
for the DPP13 Meeting of  
The American Physical Society

**Multiple Experimental Platform Consistency at NIF** L.R. BENEDETTI, M.A. BARRIOS, D.K. BRADLEY, D.C. EDER, S.F. KHAN, N. IZUMI, O.S. JONES, T. MA, S.R. NAGEL, J.L. PETERSON, J.R. RYGG, B.K. SPEARS, R.P. TOWN, Lawrence Livermore National Laboratory — ICF experiments at NIF utilize several platforms to assess different metrics of implosion quality. In addition to the point design—a target capsule of DT ice inside a thin plastic ablator—notable platforms include: (i)Symmetry Capsules(SymCaps), mass-adjusted CH capsules filled with DT gas for similar hydrodynamic performance without the need for a DT crystal; (ii)D:<sup>3</sup>He filled SymCaps, designed for low neutron yield implosions to accommodate a variety of x-ray and optical diagnostics; and (iii)Convergent Ablators, SymCaps coupled with x-radiography to assess in-flight velocity and symmetry of the implosion over  $\sim 1$ ns before stagnation and burn. These platforms are expected to be good surrogates for one another, and their hohlraum and implosion performance variations have been simulated in detail. By comparing results of similar experiments, we isolate platform-specific variations. We focus on the symmetry, convergence, and timing of x-ray emission as observed in each platform as this can be used to infer stagnation pressure and temperature. This work performed under the auspices of the U.S. Dept. of Energy by LLNL under Contract DE-AC52-07NA27344. LLNL-ABS-640865

L. R. Benedetti  
Lawrence Livermore National Laboratory

Date submitted: 12 Jul 2013

Electronic form version 1.4