

Abstract Submitted
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Lasnex Calculations of NIF Vacuum Hohlräum Experiments¹ R.E. OLSON, SNL, L.J. SUTER, LLNL, J.L. KLINE, LANL, E.A. WILLIAMS, S.H. GLENZER, K. WIDMANN, D.A. CALLAHAN, N.B. MEEZAN, S.H. LANGER, LLNL — Lasnex calculations will be described and the results compared with experimental data for a series of NIF vacuum hohlraum experiments that were among the first targets shot on NIF as part of the facility commissioning. The pre-shot calculations predicted that the 6.40 mm long, 3.55 mm diameter hohlraums would be heated to peak radiation temperatures in the range of 225-275 eV using a 96 beam subset of the NIF laser beams (up to 350 kJ total on-target), and to a peak radiation temperature of 330 eV using all 192 NIF laser beams (700 kJ total). These 2 ns sq pulse, 3w drive energies are 10-20x the on-target energies used in previous hohlraum experiments at the Nova and Omega laser facilities. The new NIF hohlraum calculations and experimental data will be compared with previous (Omega/Nova) hohlraum calculations and data. This data will allow us to validate the Lasnex code and associated physics packages at the increased size and energy regimes now available for hohlraum experiments at the NIF.

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