

Abstract Submitted  
for the DPP15 Meeting of  
The American Physical Society

**Reproducibility of NIF hohlraum measurements**<sup>1</sup> J.D. MOODY, J.E. RALPH, D.P. TURNBULL, D.T. CASEY, F. ALBERT, B.L. BACHMANN, T. DOEPPNER, L. DIVOL, G.P. GRIM, M. HOOVER, O.L. LANDEN, B.J. MACGOWAN, P.A. MICHEL, A.S. MOORE, J.E. PINO, M.B. SCHNEIDER, R.E. TIPPON, V.A. SMALYUK, D.J. STROZZI, K. WIDMANN, Lawrence Livermore National Laboratory, M. HOHENBERGER, Laboratory for Laser Energetics — The strategy of experimentally “tuning” the implosion in a NIF hohlraum ignition target towards increasing hot-spot pressure, areal density of compressed fuel, and neutron yield relies on a level of experimental reproducibility. We examine the reproducibility of experimental measurements for a collection of 15 identical NIF hohlraum experiments. The measurements include incident laser power, backscattered optical power, x-ray measurements, hot-electron fraction and energy, and target characteristics. We use exact statistics to set 1-sigma confidence levels on the variations in each of the measurements. Of particular interest is the backscatter and laser-induced hot-spot locations on the hohlraum wall. Hohlraum implosion designs typically include variability specifications [S. W. Haan, et al, Phys. Plasmas 18, 051001 (2011)]. We describe our findings and compare with the specifications.

<sup>1</sup>This work was performed under the auspices of the U.S. Department of Energy by University of California, Lawrence Livermore National Laboratory under Contract W-7405-Eng-48.

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Date submitted: 24 Jul 2015

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