Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Capsule Implosion Symmetry in NIF Hohlraums[1] R.P.J. TOWN, P.A. MICHEL, L. DIVOL, D.A. CALLAHAN, O.S. JONES, J. MILOVICH, M.D. ROSEN, J.D. MOODY, L.R. BENEDETTI, D.K. BRADLEY, S. GLENN, N. IZUMI, S.F. KHAN, A.E. PAK, V.A. SMALYUK, R. TOMMASINI, D.S. BAILEY, J.A. HARTE, G.B. ZIMMERMAN, Lawrence Livermore National Laboratory, G.A. KYRALA, Los Alamos National Laboratory, R. SCOTT, STFC Rutherford Appleton Laboratory — A key requirement for the achievement of ignition on the National Ignition Facility (NIF) is to adequately control the hotspot low mode shape. This is diagnosed by measuring the X-ray self-emission from the imploding capsule, either in surrogate symmetry capsule, or in layered implosions. The primary method of controlling the equatorial drive symmetry is to vary the power balance between the inner and outer cones either directly or by crossbeam energy transfer. Varying the power balance within the inner cones controls the azimuthal asymmetry. This paper will review the status of the low-mode shape of layered implosions and compare to integrated simulations using a new backscatter model and in-line crossbeam power transfer model.

[1]This work performed under the auspices of the U.S. Department of Energy by LLNL under Contract DE-AC52-07NA27344.

R. P. J. Town
Lawrence Livermore National Laboratory

Date submitted: 24 Jul 2012 Electronic form version 1.4