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Drive Symmetry Measurements with Ignition Relavent Conditions using Large Scale, Be, Thin Shell Capsules on the Omega Laser ROBERT KIRKWOOD, E. DEWALD, J.M. EDWARDS, J. MILOVICH, D.H. KALANTAR, O.L. LANDEN, LLNL, S.R. GOLDMAN, M. SCHMITT, LANL, LLNL COLLABORATION, LANL COLLABORATION — One technique to obtain symmetric ignition implosions on NIF is to measure the symmetry of the hohlraum radiation drive as a function of time by monitoring the shape of thin shell capsules by x-ray backlit imaging. Experiments at the Omega laser facility provided brightly backlit images of 0.7-scale Be capsules doped with 2% Cu under NIC foot conditions by using a 1ns pulse shape for drive and backlighter beams. 16 images of the imploding shell were recorded on each shot with a 4.7 keV (Ti), foil backlighter between 6.6 and 7.4 ns. Separate shots varied the fraction of energy in the cones and the total drive energy. The shell was observed to have a significant P2 distortion when the inner cone power was low, and increasing the inner cone power was shown to produce a symmetric shell with P2 near zero. The results will be compared with simulation of the expected shell distortion to verify the sensitivity of the technique. This Work was performed under the auspices of the U.S. DOE by Lawrence Livermore Lab under contract No. DE-AC52- A27344, LLNL-ABS-405480.

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