

Abstract Submitted
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Implosion of Large Scale, Be, Thin Shell Capsules on Omega, Under NIC Conditions¹ R.K. KIRKWOOD, E. DEWALD, D. MEEKER, J. MILOVICH, D.H. KALANTAR, O.L. LANDEN, LLNL, S.R. GOLDMAN, M. SCHMITT, LANL, B.B. AFEYAN, Polymath — 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 the imploded capsules by x-ray backlit imaging. To enhance the sensitivity of this measurement to time-dependent asymmetries, different thickness surrogate capsules will be used. Backlit images of thin (13 to 27 μm) Cu doped Be shells are planned during the foot of the ignition pulse between 2.0 and 10.2 ns. Recent experiments at the Omega laser facility provided images of 0.7-scale Be capsules doped with 2% Cu under NIC foot conditions. Images of the imploding shell were recorded with a 4.7 keV (Ti), folded foil backlighter between 6.0 and 7.7 ns. These images showed an absorption limb shape, with minimum transmission and radius that closely match the design values, indicating the integrity and response of the imploding shell up to the measurements times. Capsule and drive symmetry, and the quality of the images and comparison with predicted signal and noise models will be discussed.

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