

Abstract Submitted
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Measuring the azimuthal symmetry of the imploding in-flight ablator with a novel axial x-ray shadowgraph platform on the National Ignition Facility NOBUHIKO IZUMI, S. GLENN, S.R. NAGEL, R. RYGG, J.L. PETERSON, O.S. JONES, B. YOXALL, T. PARHAM, S. BURNS, O.L. LANDEN, D. KALANTAR, A.V. HAMZA, K. KNITTEL, A.J. MACKINNON, P.M. BELL, R.P.J. TOWN, D.K. BRADLEY, LLNL — For x-ray driven implosions, the hohlraum typically has cylindrical symmetry, and the x-ray drive on the capsule is close to axisymmetric. However, realistic targets have azimuthally asymmetric structures (such as a finite number of laser beams, diagnostic holes in the hohlraum wall, and the fuel fill tube attached to the equator of the capsule), all of which can compromise the ability to compress the capsule. Therefore it is important to measure these asymmetries. To measure the time-dependent shape, velocity, and mass, we have developed a new axial x-ray shadowgraph platform at the National Ignition Facility. We set the x-ray backlighter foil on the hohlraum axis (below the laser entrance hole) and observe the backlit image using a gated x-ray camera placed above the hohlraum. The experimental design and detailed results from this new experimental platform will be presented. Prepared by LLNL under Contract DE-AC52-07NA27344. LLNL-ABS-626372

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