

Abstract Submitted
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Monochromatic backlight imaging of dynamic hohlraum driven capsule experiments G.A. CHANDLER, D.B. SINARS, K. PETERSON, D.E. BLISS, J.E. BAILEY, Sandia National Laboratories, G. COOPER, University of New Mexico, R.W. LEMKE, G.A. ROCHAU, C.L. RUIZ, S.A. SLUTZ, Sandia National Laboratories, W.S. VARNUM, Comforce Technical Services, R.J. LEEPER, T.A. MEHLHORN, Sandia National Laboratories, D.G. SCHROEN, Schafer Corporation — Dynamic hohlraum driven ICF is appealing because of the efficient generation and coupling of x-rays to capsules. This efficiency is achieved by closely coupling the dynamic hohlraum system to the ICF capsule. It is therefore extremely important to interrogate the hydrodynamics in this ICF scheme. In these experiments on the Z-accelerator we have for the first time observed backlight images of a dynamic hohlraum system where we have coupled ~ 60 kJ of x-ray energy into a NIF size capsule with a diameter of 2.5 mm and with a radiation drive peaking at ~ 220 eV. These capsules have a $65 \mu\text{m}$ Ge-doped CH wall and are filled with ~ 20 atm of Deuterium and 0.06 atm of Argon. The dynamic hohlraum hydrodynamics were also explored using a fast optical framing camera. Comparisons of the experimental data with simulations will be presented. Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the U.S. Dept. of Energy under contract No. DE-AC04-94AL85000.

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