

Abstract Submitted
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Understand Hohlraum Physics from NIF Gated Laser-entrance-hole Images ¹ HUI CHEN, T. WOODS, O. JONES, L. R. BENEDETTI, D. HINKEL, N. IZUMI, S. MACLAREN, N. MEEZAN, J. MOODY, M. SCHNEIDER, Lawrence Livermore Natl Lab, M. VANDENBOOMGAERDE, CEA — The ns-gated NIF laser-entrance-hole (LEH) imager provides a routine, non-perturbative measurement of hohlraum x-ray emission from inner and outer laser beam deposition regions. From the data we infer the plasma bubble trajectory and the ratio of brightness between inner and outer beams as a function of time. These experimental results are used to understand models of heat transport and hydrodynamic instability development used in the radiation-hydrodynamic codes. We will summarize the experimental data and its comparisons with models as a function of reduced model parameters for a variety of NIF ICF experiments. The agreements and discrepancies will be highlighted as well as new understanding and interpretations of the experimental data.

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