

Abstract Submitted  
for the DPP16 Meeting of  
The American Physical Society

**Laser propagation in simulations of low fill density hohlraums<sup>1</sup>**

NATHAN MEEZAN, L. F. BERZAK HOPKINS, N. IZUMI, L. DIVOL, D. E. HINKEL, J. E. RALPH, J. D. MOODY, D. A. CALLAHAN, Lawrence Livermore National Laboratory — We present analysis of laser propagation in simulations of low fill density hohlraums on the National Ignition Facility (NIF). Simulations using the radiation hydrodynamic code HYDRA are compared in 2D and 3D. The absorption of laser rays in different materials and spatial locations is extracted from the simulations to identify where and when the inner cone laser beams undergo significant absorption. Inner cone laser beams can be absorbed in the outer cone “gold bubble” or in the region where the ablator and hohlraum material interact. The simulations provide guidance on which hohlraum mitigation methods will be most effective at improving inner beam propagation.

<sup>1</sup>Prepared by LLNL under Contract DE-AC52-07NA27344

Nathan Meezan  
Lawrence Livermore National Laboratory

Date submitted: 05 Jul 2016

Electronic form version 1.4