

Abstract Submitted  
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**Detailed simulations of x-ray drive in gas-filled hohlraums with plastic-lined laser entrance holes**<sup>1</sup> N.B. MEEZAN, K. WIDMANN, C. SORCE, L.J. SUTER, Lawrence Livermore National Laboratory, F. GIRARD, Commissariat a l'Energie Atomique, S.P. REGAN, Laboratory for Laser Energetics — Recent experiments on the OMEGA laser facility examined x-ray drive in gas-filled gold hohlraums with and without plastic- (CH-) lined laser entrance holes (LEH's). We use simulations with the multi-physics code HYDRA to examine the role of the LEH liner as a sink for laser and x-ray energy. The hohlraums were filled with a hydrocarbon gas mixture to 4.5% of the critical density, resulting in hydrodynamic evolution very similar to that seen in simulations of NIF ignition hohlraums. Comparisons with DANTE measurements show excellent agreement for hohlraums with unlined LEH's. HYDRA over-predicts the flux from hohlraums with lined LEH's by less than 10%. HYDRA also reproduces the M-band ( $2\text{keV} < \epsilon < 5\text{keV}$ ) flux at the peak of the laser pulse but under-predicts the M-band during the rising edge of the pulse.

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