Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Complete Time History of Hohlraums Imaged through the Laser Entrance Hole on the National Ignition Facility HUI CHEN, K. BAKER, L. R. BENEDETTI, A. CARPENTER, D. CASEY, M. DAYTON, B. GOLICK, J. HOLDER, N. IZUMI, O. JONES, S. KHAN, A. KRITCHER, N. PALMER, J. SALMONSON, M. SCHNEIDER, C. TROSSEILLE, D. WOOD, C. YOUNG, A. ZYLSTRA, Lawrence Livermore Natl Lab — A major upgrade of the gated laser-entrance-hole imager on the National Ignition Facility (NIF) now allows for 8 frames of 1-2 ns integration time gated at variable intervals. The frames show much improved uniformity and the diagnostic is now radiation hardened for high yield shots. These new capabilities enable imaging the hohlraum LEH over the entire time history of a NIF inertial confinement fusion (ICF) experiment, from the low power "foot" of the laser drive through capsule stagnation after the laser turns off. Example data and their interpretation from a range of NIF experiments will be presented, contributing towards a better understanding of NIF hohlraum physics. This work was performed under the auspices of the U.S. Department of Energy by LLNS, LLC, under Contract No. DE-AC52- 07NA27344.

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Date submitted: 10 Jul 2020 Electronic form version 1.4