

Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

X-ray induced preheat in indirect drive candidate ablators for the NIF SHON T. PRISBREY, DAVID K. BRADLEY, DAVID G. BRAUN, OTTO L. LANDEN, JON H. EGGERT, Lawrence Livermore National Laboratory — We have developed a hohlraum platform to experimentally measure preheat in materials during the first 1-2 nanoseconds of the current Haan pulse for ignition on the National Ignition Facility. The platform design approximates the radiation environment of the pole of the capsule by matching the laser spot intensity and illuminated hohlraum wall fraction. VISAR reflecting off the back of the sample was used to measure sample motion prior to shock breakout. We will present our experimental results and simulations for candidate ablator samples. Both experiment and simulation results indicate that the ablator materials remain far from melt or the coexistence region which satisfies the NIF ignition requirement. This work was performed under the auspices of the U.S. Department of Energy by University of California, Lawrence Livermore National Laboratory under Contract W-7405-Eng-48. UCRL-ABS-232885.

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Date submitted: 22 Jul 2007

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