Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Simulating hohlraum dynamics and radiation flow for Pleiades experiments on NIF K. MUSSACK, Los Alamos National Laboratory, B.G. DEVOLDER, P.A. KEITER, J.L. KLINE, N. LANIER, G.R. MAGELSSEN, R.R. PETERSON, J.M. TACCETTI — The Pleiades campaign is developing and validating an experimental platform on NIF to produce a high-quality radiation drive to study super-, trans- and subsonic radiation flow. Platform requirements include 5% shot-to-shot repeatability, a minimum radiation drive of 300 eV, and the ability to provide supersonic radiation. Here we discuss the ongoing series of experiments, focusing on simulations of the hohlraum and package. We assess the platform's ability to provide the required drive and reproducibility, the effectiveness of spectral tailoring with M-band absorbing foam, and the ability of our models to simulate the hohlraum drive and radiation flow. Early shots in the campaign have met or surpassed requirements. The first shot produced a 340 eV drive, exceeding the minimum drive requirement. The Dante-measured flux from the second shot demonstrated success in meeting the repeatability requirement. Simulated Dante temperatures match both shots well, indicating that simulations successfully model the laser energy deposition and hohlraum dynamics.

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Date submitted: 25 Jul 2011 Electronic form version 1.4