

Abstract Submitted
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Optimizing the NIF ignition point design hohlraum and laser beam focal spot designs¹ DEBRA CALLAHAN, DENISE HINKEL, LARRY SUTER, PAUL WEGNER, STEVE POLLAINE, NATHAN MEEZAN, NINO LANDEN, JOHN LINDL, SHAM DIXIT, LAURENT DIVOL, ED WILLIAMS, JOHN EDWARDS, BRUCE LANGDON, LLNL, PAUL BRADLEY, LANL — The first ignition tuning experiments on the National Ignition Facility will be performed in 2009 to be followed by ignition implosion experiments in 2010. Optimizing the coupling of laser energy into the hohlraum and choice of the characteristics of the laser focal spots, involve trade-offs in several areas. These include proximity to expected thresholds for laser plasma interactions (driven by laser intensity), the impacts of the focal spot size on x-ray symmetry, the degree to which the spots can be repointed within the laser entrance hole to adjust symmetry, the impact of the phase plate on the laser performance and the fabricability of the hohlraum and phase plates. This paper summarizes the work of a large design team that has concentrated on producing an integrated design for a hohlraum and focal spots consistent with laser performance that meets the requirements for ignition.

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