Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Lower Temperature Ignition Hohlraums for the National Ignition Facility STEPHEN POLLAINE, STEVE HAAN, LARRY SUTER, DENISE HINKEL, DARWIN HO, JOHN LINDL, Lawrence Livermore National Laboratory — The National Ignition Facility will start conducting indirect drive ignition tuning experiments in 2009 followed by ignition implosion experiments in 2010. The current ignition point design is a Be-ablator capsule inside a 300 eV hohlraum. Since laser intensity and power requirements decrease with radiation temperature, while hohlraum coupling efficiency increases, the optimum temperature for ignition may be less than 300eV. This optimum could be determined by a number of trade-offs, including estimated capsule margin, estimated levels of laser plasma interactions, implosion symmetry and required laser performance. We describe a detailed design study for a 270 eV ignition hohlraum, and examine the tradeoffs at this lower temperature.

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Date submitted: 20 Jul 2006 Electronic form version 1.4