

Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

Application of variably-doped ablators to NIF capsules¹

STEPHEN SLUTZ, ROGER VESEY, Sandia National Labs — 2D LASNEX simulations indicate that polar angle- and depth-dependent doping of inertial fusion capsule ablators can effectively compensate for radiation drive asymmetries [1]. We present simulations of a NIF capsule design [2] with variable in-depth doping to compensate for low order radiation asymmetry modes. Such symmetry compensated capsules could allow modifications to the laser pointing within the NIF hohlraum that increase the radiation asymmetry, but reduce the potential for deleterious laser plasma interactions. [1] S. A. Slutz, R. A. Vesey, and M. C. Herrmann, Phys. Rev. Lett. **99**, 175001 (2007). [2] S. W. Haan, M.C. Herrmann, T.R. Dittrich et al, Phys. Plasma 12, 056316 (2005).

¹Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

Stephen Slutz
Sandia National Labs

Date submitted: 22 Jul 2008

Electronic form version 1.4