Abstract Submitted
for the DPP16 Meeting of
The American Physical Society

Towards a more precise driving of capsules in ignition-scale hohlraums[1] WILLIAM KRUER[2], CLIFF THOMAS, Lawrence Livermore National Laboratory — Precision Nova experiments[3] demonstrated the importance of rather precisely irradiating the interior walls of a hohlraum, even for imploding capsules to a convergence ratio of ˜20. Designs of precision implosions in a gas-filled ignition-scale hohlraum to even higher convergence would benefit from an improved understanding of both the plasma conditions and the laser energy deposition in time and space. The plasma conditions are sensitive to heat transport inhibition, which has been a recurrent theme in experiments with earlier lasers. Such inhibition has been proposed[4] in order to better model NIF gas-filled hohlraums. An improved self-consistent model for the commonly invoked inhibition by two-stream turbulence is outlined, and some simple estimates made. These estimates suggest that the postulated reduction in heat transport may sometimes actually be due to other processes, such as self-generated magnetic fields. Several ways to reduce such B field effects are discussed, including greater temporal smoothing of speckle structure in the laser beams and reduction of intensity structure due to CBET and beam overlap on the hohlraum walls. 3. John D. Lindl, *et. al.*, Phys. Plasmas 11, 339 (2004) 4. Cliff A. Thomas (private communication)

[1]This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.
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Date submitted: 19 Jul 2016 Electronic form version 1.4