Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Shock ignition electron transport simulations with the hybrid particle in cell code OSIRIS[1] A. TABLEMAN, J. TONGE, M. TZOUFRAS, J. MAY, W.B. MORI, Department of Physics & Astronomy, University of California, Los Angeles, F. FIUZA, R.A. FONSECA, L.O. SILVA, GoLP/IPFN-LA, Instituto Superior Técnico — In order evaluate and optimize shock ignition target designs, hot electron generation and transport must be well understood and incorporated into simulation codes. The temperature of electrons generated at the shock will determine whether non-local electron transport is important in shock ignition. Non-local transport can affect the stability and symmetry of the target. This is particularly important in assessing the feasibility of polar drive for shock ignition designs. To investigate electron transport in the context of the interaction of intense short-pulse lasers with plasmas, the density of which can range from less than critical to more than solid, we use hybrid-PIC version of OSIRIS. The PIC code accurately simulates the laser plasma interaction while the fluid model is used to model electron transport at high density. These simulations are performed in one and two dimensions.

[1]Work supported by DOE under DE-FG52-09NA29552, University of Rochester Subcontract No. 415025-G FSC, and NSF under NSF-Phy-0904039.

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Date submitted: 25 Jul 2011 Electronic form version 1.4