Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

PIC Simulation of Laser Plasma Interactions with Temporal Bandwidths[1] FRANK TSUNG, UCLA, J. WEAVER, R. LEHMBERG, Naval Research Laboratory — We are performing particle-in-cell simulations using the code OSIRIS to study the effects of laser plasma interactions in the presence of temperal bandwidths under conditions relevant to current and future shock ignition experiments on the NIKE laser. Our simulations show that, for sufficiently large bandwidth, the saturation level, and the distribution of hot electrons, can be effected by the addition of temporal bandwidths (which can be accomplished in experiments using smoothing techniques such as SSD or ISI). We will show that temporal bandwidth along play an important role in the control of LPI's in these lasers and discuss future directions.

[1]This work is conducted under the auspices of NRL

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Date submitted: 22 Jul 2015 Electronic form version 1.4