Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

Planning for NDCX-II, a next-step platform for ion beam-driven Warm Dense Matter studies[1] A. FRIEDMAN, J. J. BARNARD, D. P. GROTE, LLNL; E. HENESTROZA, M. LEITNER, B. G. LOGAN, W. WALDRON, S. S. YU, LBNL; R. C. DAVIDSON, I. KAGANOVICH, PPPL --- The Heavy Ion Fusion Science Virtual National Laboratory, a collaboration of LBNL, LLNL, and PPPL, has achieved 60-fold temporal pulse compression of ion beams on the Neutralized Drift Compression eXperiment (NDCX) at LBNL. Here, a velocity "tilt" is imparted to the beam by a ramped voltage pulse as it traverses an induction gap; the beam's tail then catches up with its head in a plasma environment that provides the needed neutralization. Initial studies of matter heated by low-energy ions are beginning on NDCX. We seek to experimentally study uniformly heated foils for basic Warm Dense Matter physics, and key aspects of ion direct drive for inertial fusion. These goals require an improved platform, NDCX-II, and this talk will describe our progress and planning thereof, with an emphasis on simulation studies of beam dynamics.

[1]Work performed under auspices of U.S. DoE by the University of CA, LLNL and LBNL under Contracts W-7405-Eng-48 and DE-AC02-05CH11231, and PPPL under Contract DE-AC02-76CH03073.

Prefer: Oral session
Type: Theory/computational

Sorting category: 2.1.1 Ion Beams and Accelerators

Special instructions: Please schedule during first 3 days of meeting if possible. Category could be: 2.1.1 Ion Beams and Accelerators, or 6.1.3 Plasma Simulation and Integrated Modeling; Charged-particle beam propagation.

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