

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Simultaneous induction acceleration and bunching in the Neutralized Drift Compression Experiment¹ PETER SEIDL, G. BAZOUIN², S.M. LIDIA, P.K. ROY, W.L. WALDRON, Lawrence Berkeley National Laboratory — The Neutralized Drift Compression Experiment uses a ramped, bipolar induction module waveform to compress the beam to nanosecond bunches for the study of warm dense matter (WDM). We have recently explored beam dynamics and possible beamline modifications required to simultaneously compress and accelerate the beam using a unipolar waveform. This has the advantage of a higher energy deposition in the target, and mimics beam manipulations in next-generation ion accelerators for WDM experiments. We report modeling and experimental results of this beam manipulation on the NDCX beamline with the new induction bunching module with approximately twice the volt-seconds.

¹This work was supported by the Director, Office of Science, Office of Fusion Energy Sciences, of the U.S. Department of Energy under Contract No. DE-AC02-05CH11231.

²Grenoble Institute of Technology

Peter Seidl
Lawrence Berkeley National Laboratory

Date submitted: 17 Jul 2009

Electronic form version 1.4