

Abstract Submitted  
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**Development of a PDXP platform on NIF** HEATHER WHITLEY, MARILYN SCHNEIDER, Lawrence Livermore Natl Lab, WARREN GARBETT, Atomic Weapons Establishment, JESSE PINO, RONNIE SHEPHERD, Lawrence Livermore Natl Lab, COLIN BROWN, Atomic Weapons Establishment, JOHN CASTOR, HOWARD SCOTT, C. LELAND ELLISON, LORIN BENEDICT, Lawrence Livermore Natl Lab, HONG SIO, BRANDON LAHMANN, RICHARD PETRASSO, Massachusetts Institute of Technology, FRANK GRAZIANI, Lawrence Livermore Natl Lab — Over the past several years, we have conducted theoretical investigations of electron-ion coupling and electronic transport in plasmas. In the regime of weakly coupled plasmas, we have identified models that we believe describe the physics well, but experimental measurements are still needed to validate the models. We are developing spectroscopic experiments to study electron-ion equilibration and electron heat transport using a polar direct drive exploding pusher (PDXP) platform at the National Ignition Facility (NIF). Initial measurements are focused on characterizing the laser-target coupling, symmetry of the PDXP implosion, and overall neutron and x-ray signals. We present images from the first set of shots and make comparisons with simulations from ARES and discuss next steps in the platform development. Prepared by LLNL under Contract DE-AC52-07NA27344. LLNL-ABS-697489

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