

Abstract Submitted  
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**Simulations of ion beam heated targets for warm dense matter (WDM) physics and inertial fusion energy**<sup>1</sup> J. BARNARD, A. FRIEDMAN, M. MARINAK, LLNL, L.J. PERKINS, J. ARMIJO, F. BIENIOSEK, E. HENESTROZA, M. LEITNER, B.G. LOGAN, R. MORE, P. NI, G. PENN, P. ROY, P. SEIDL, J. WURTELE, A. ZEBALLOS, A. ZYLSTRA, LBNL, R. DAVIDSON, L. GRISHAM, I. KAGANOVICH, PPPL, C. DEBONNEL, CEA/DIF, P. STOLTZ, S. VEITZER, Tech-X — We present simulations and analysis of ion beam heating of foil targets in the WDM regime for prospective experiments on the Neutralized Drift Compression Experiment (NDCX-1) and its proposed upgrade (NDCX-II). The simulations were carried out using the multi-physics rad/hydro code HYDRA<sup>2</sup>, as well as the 1D codes DPC<sup>3</sup> and DISH<sup>4</sup>. Calculations of droplet radius evolution and ion energy deposition refinements were carried out. Initial simulations of direct drive capsules using temporally tailored ion beams will also be presented. <sup>2</sup>M. M. Marinak, et al, Phys. Plasmas **8**, 2275 (2001); <sup>3</sup>R. More, et al, JQSRT **99**, 409 (2006); <sup>4</sup>DISH is a Deeply Simplified Hydrodynamics code authored by R. More, June 2007.

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