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Ion-driven warm dense matter target studies J.J. BARNARD, LLNL, N.A. TAHIR, GSI, R.M. MORE, J. ARMIJO, A. FRIEDMAN, LLNL, E. HENESTROZA, LBNL, I.V. LOMONOSOV, A. SHUTOV, IPCP, Chernogolovka, G.E. PENN, LBNL, A.R. PIRIZ, ETSI Industriales, Spain, J.S. WURTELE, LBNL
— In developing the use of ion beams to heat matter to warm dense matter conditions to infer the equation of state and other transport properties, numerous hydrodynamic calculations are being carried out by both the Heavy Ion Fusion Science Virtual National (HIFS VNL) Laboratory (a collaboration between LBNL, LLNL and PPPL) and the HEDgeHOB collaboration (a multi-institutional project carrying out experiments at GSI, Darmstadt, Germany). As a result of the different ion energies of the two different proposed facilities the target geometries will be different. In the HIFS VNL experiments planar target foils illuminated normal to the face of the foil will be used. In the HEDegHOB collaboration, cylindrical targets illuminated along the axis, and planar targets illuminated parallel to the face of the target are employed. A comparison of simulations for all three types of targets will be shown, using codes being used by researchers in the the HEDgeHOB and HIFS VNL collaborations. The effects of different assumptions made in the simulations (e.g. differences in equation of state, including assumptions concerning equilibrium (Maxwell) construction vs. non-equilibrium constructions) will be explored.

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