Abstract Submitted
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Development of lower-adiabat drives for Rayleigh-Taylor strength experiments.[1] T.E. LOCKARD, M.P. HILL, A.G. KRYGIER, A.B. ZYLSTRA, Lawrence Livermore Natl Lab, P. GRAHAM, AWE Plc, P.D. POWELL, D.C. SWIFT, S.T. PRISBEY, H.-S. PARK, J.M. MCNANEY, Lawrence Livermore Natl Lab — We have used the expansion of a shocked reservoir assembly across a gap to induce ramp loading, precluding sample melting, and hence infer strength from the growth of ripples at an interface. For multi-megabar loading, the reservoir comprises a sandwich of several materials, and the resulting load history has a large amount of structure, including small shocks. This structure leads to a degree of shock heating, and some uncertainty in the heating that actually occurs. We report on progress in studies to improve the reservoir drive by reducing the shock heating via adjustments of reservoir density and thicknesses. We will discuss the sensitivity of the EOS models used for the components of the experiment in hydrodynamic simulations.

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