Simulations of Laboratory Astrophysics Experiments using the CRASH code[1] MATTHEW TRANTHAM, CAROLYN KURANZ, JEFF FEIN, WILLOW WAN, RACHEL YOUNG, PAUL KEITER, R PAUL DRAKE, University of Michigan - Ann Arbor — Computer simulations can assist in the design and analysis of laboratory astrophysics experiments. The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan developed a code that has been used to design and analyze high-energy-density experiments on OMEGA, NIF, and other large laser facilities. This Eulerian code uses block-adaptive mesh refinement (AMR) with implicit multigroup radiation transport, electron heat conduction and laser ray tracing. This poster will demonstrate some of the experiments the CRASH code has helped design or analyze including: Kelvin-Helmholtz, Rayleigh-Taylor, magnetized flows, jets, and laser-produced plasmas.

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