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Early-Time Radiation-Hydrodynamic Modeling of Radiative Shock Experiments E.M. RUTTER, R.P. DRAKE, M.J. GROSSKOPF, C.C. KURANZ, B. TORRALVA, F.W. DOSS, University of Michigan — The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan is developing an AMR radiation-hydrodynamics code that currently requires input from another code, Hyades, in order to model laser driven experiments. Hyades is a Lagrangian radiation-hydrodynamics code with the capability of modeling laser deposition, whose results are passed to CRASH as initial conditions. The physics models in Hyades have a large number of tunable parameters, which need to be calibrated to a particular problem. Results from shock breakout experiments performed on the OMEGA Laser at LLE can be used to improve this calibration, which then leads to an improvement in the predictive capability of the CRASH code. The results of a series of Hyades simulations of the radiative shock problem in both 1D and 2D are presented. This research was supported by the DOE NNSA under the Predictive Science Academic Alliance Program by grant DEFC52- 08NA28616.

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