Kelvin-Helmholtz Instability Modeling using the CRASH Code

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Abstract

The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan has developed an AMR, Eulerian radiation-hydrodynamics code, CRASH, which can model laser-driven experiments. One of these experiments we performed previously on the OMEGA Laser at LLE was designed to produce and observe the Kelvin-Helmholtz instability. The target design included low-density CRF foam layered on top of polyamide-imide plastic, with a sinusoidal perturbation on the interface and with the assembled materials encased in beryllium. The results of a series of CRASH simulations of these Kelvin-Helmholtz instability experiments are presented. These results will be compared to the experimental observations.

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