

Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Modeling the Kelvin-Helmholtz Instability in High-Energy-Density Experiments Using CRASH Code¹ ERICA RUTTER, R.P. DRAKE, K.I. GASIOR, M.J. GROSSKOPF, C.C. KURANZ, B. FRYXELL, CRASH TEAM — The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan is developing an AMR radiation-hydrodynamics code, which can model laser-driven experiments. One such experimental campaign on the OMEGA Laser at LLE is designed to replicate and diagnose the Kelvin-Helmholtz instability in a high-energy-density system. Experimental results have been reported using a design with CRF foam layered on top of polyamide-imide plastic, which have a sinusoidal perturbation at their interface and are encased in beryllium [1]. CRASH simulations have modeled this experiment to validate the code in this regime, as well as to aid in the design of future Kelvin-Helmholtz experiments. We present the results of a series of CRASH simulations of the Kelvin-Helmholtz instability.

[1] E. C. Harding, et al, Phys Rev Lett, 2009

¹This work is funded by the Predictive Sciences Academic Alliances Program in NNSA-ASC via grant DEFC52-08NA28616.

Erica Rutter
University of Michigan

Date submitted: 26 Jul 2011

Electronic form version 1.4