

## **Expected Variation in Shock Behavior due to Experimental Variability**

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The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan is developing an AMR Radiation Hydrodynamics code that requires input from another code, Hyades, in order to model laser driven experiments. Hyades is a Lagrangian Radiation Hydrodynamics code models laser deposition, whose results will be passed to CRASH as initial conditions. Results from radiative shock experiments performed on the Omega Laser at LLE are also used to improve the predictive capability of the CRASH code. However, there is natural variation in the laser experiments, such as the exact placement of each laser beam, which can affect the velocity of the radiative shocks as well as general shock behavior. Analysis of experimental variabilities and uncertainties was performed which included a Latin hypercube sampling of beam pointing and target alignment errors to investigate laser spot uniformity. This work was completed to analyze the expected variation in the shock behaviors. This information can be used to further understand what variations can be expected in the experimental data used to verify CRASH code.

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