Abstract Submitted
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1D Hyades Study of Varying Input Parameters of a Gaussian Distribution[1] N. GJECI, R.P. DRAKE, E.M. RUTTER, M.J. GROSSKOPF, C.C. KURANZ, B. FRYXELL, University of Michigan — The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan is a collaborative effort in predictive sciences associated with radiative hydrodynamics. Computer simulations aid in high-energy-density physics experiments performed at the OMEGA laser in Rochester, NY. The high intensity laser driven shocks are modeled using 1D Hyades, a Lagrangian radiation-hydrodynamic code. A data set varying input parameters over a Gaussian distribution is created and, using a Latin Hypercube sampling process, used to build sets of simulations to cover the input parameter space. This will advance the uncertainty quantification process, determining the impact of the variance of the experimental parameters. A Latin Hypercube Sampling distribution provides a multi-dimensional sensitivity analysis of the physical parameters of the experiment, enhancing the predictive capabilities of CRASH code.

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