

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Sensitivity Analysis of Laboratory Astrophysics Experiments using 2D HYADES¹ M.J. GROSSKOPF, R.P. DRAKE, C.C. KURANZ, B. FRYXELL, F.W. DOSS, A.J. VISCO, University of Michigan — We will show results of a series of simulations using 2D HYADES (or H2D) to examine the sensitivity of various physical quantities to the variability of initial parameters. Computer simulations play a critical role in experimental design in order to maximize the quality of results from campaigns at large high-energy-density facilities. Codes such as H2D must be well characterized for each experimental regime before they can be used as a reliable design tool. Designs from experiments carried out on the Omega Laser are used as the basis of the simulation set. Code results are analyzed at 1.3 ns, the time just after the laser deposition phase has finished, and at a later time to follow the hydrodynamic evolution of the experiment. Conducting an initial sensitivity study in 2D is critical for quantifying the predictive capability of H2D and codes coupled to H2D output.

¹Supported by the US DOE NNSA under the Predictive Sci. Academic Alliance Program by grant DE-FC52-08NA28616, the Stewardship Sci. Academic Alliances program by grant DE-FG52-04NA00064, and the Nat. Laser User Facility by grant DE-FG03-00SF22021.

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Date submitted: 20 Jul 2009

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