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shock driven instability of a multi-phase particle-gas system JACOB MCFARLAND, WOLFGANG BLACK, JEEVAN DAHAL, University of Missouri, BRANDON MORGAN, Lawrence Livermore National Laboratory — A computational study of a shock driven instability of a multiphse particle-gas system is presented. This instability can evolve in a similar fashion to the Richtmyer-Meshkov (RM) instability, but has addition parameters to be considered. Particle relaxation times, and density differences of the gas and particle-gas system can be adjusted to produce results which are different from the classical RM instability. We will show simulation results from the Ares code, developed at Lawrence Livermore National Laboratory, which uses a particle-in-cell approach to study the effects of the particle-gas system parameters. Mixing parameters will be presented to highlight the suppression of circulation and gas mixing by the particle phase.

Jacob McFarland
University of Missouri

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