Abstract Submitted
for the DFD15 Meeting of
The American Physical Society

Investigation of Richtmyer-Meshkov turbulent mixing using front tracking method DAN SHE, HYUNKYUNG LIM, POOJA RAO, JAMES GLIMM, State Univ of NY- Stony Brook, API TEAM — Simulations are performed to study mach number and initial conditions effects on Richtmyer-Meshkov (RM) mixing. In a long shock tube ($12.7cm \times 12.7cm \times 639.6cm$), a perturbed interface between air-acetone and SF6 ($A = 0.64$) is accelerated in the simulation. Two kinds of RM initial conditions (linear and non-linear) and two Mach numbers (1.3 and 1.45) are set in simulations. Front tracking method is used to decrease numerical diffusion around the interface. Initial conditions come from experiments measured by Los Alamos National Laboratory. Simulation results are compared with experiment results.

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Date submitted: 01 Aug 2015 Electronic form version 1.4