

Abstract Submitted
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Experimental Parametric Study of the Inclined Interface Richtmyer-Meshkov Instability JACOB MCFARLAND, SKYLAR CREEL, DAVID REILLY, CHRISTOPHER MCDONALD, Texas A&M University, JEFFREY GREENOUGH, Lawrence Livermore National Laboratory, DEVESH RANJAN, Texas A&M University — Experiments performed in the Texas A&M shock tube facility will be presented which explore the effect of incident shock strength, Atwood number, and inclination angle on the development of the Richtmyer-Meshkov instability. Experiments with a range of Atwood numbers (~ 0.23 to 0.85) and high interface inclination angles ($>45^\circ$) at moderate incident shock Mach numbers (~ 1.55 and 1.9) will be presented. Qualitative results will be presented using Mie scattering images obtained from early to late times before reshock. Quantitative results such as the interface mixing width growth rate, and vorticity deposition will be presented for select cases. Experimental results will also be compared with simulation results from the Lawrence Livermore National Laboratory's ALE hydrodynamics code, ARES.

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