

Abstract Submitted
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Inclined Interface Richtmyer-Meshkov Instability: Reshock Study¹ SKYLAR CREEL, JACOB MCFARLAND, DAVID REILLY, CHRIS McDONALD, Texas A&M University, SHANAE SMITH, Sam Houston State University, DEVESH RANJAN, Texas A&M University — Experimental work performed in the Texas A&M University Shock Tube and Advanced Mixing Lab will be presented focusing on the effort to drive the Richtmyer-Meshkov instability to a turbulent state through the use of reshock. Experiments presented will feature a range of Atwood numbers (~ 0.23 to 0.67) at an inclination angle of 60° , Mach numbers of ~ 1.55 and ~ 1.91 and multiple reshock interaction times. Experiments will qualitatively detail the effect of reshock interaction time on the developing instability through Mie scattering images. Velocity fields will be acquired through the use of particle image velocimetry (PIV). Quantitative measurements of vorticity, using velocity fields, and mixing width growth rates, using Mie scattering images, of the reshocked flow will be compared to their pre-reshock values. Comparison will provide information on the effect of reshock on the level of turbulence in the flow.

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