

Abstract Submitted  
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**Experimental investigation of the late late-time 2D Richtmyer-Meshkov instability** ROBERT MORGAN, VITALIY KRIVETS, JEFFREY JACOBS, The University of Arizona — Experiments were performed in the University of Arizona 10 m vertical shock tube. The fluid interface is created by opposed gas flows of SF<sub>6</sub> entering from the bottom and air entering from the top. Oscillating the 89 mm square test section transversely forms an a single mode initial perturbation with 36 mm wavelength and 3.2 mm post-shock initial amplitude. A normal shock wave with  $M_s = 1.2$  impulsively accelerates the interface. Mie scattering using smoke particles mixed in the air is used to visualize the flow. Data was recorded using four CMOS video cameras operating at 6 kHz. The four video cameras allow the acquisition of image sequences and thus multiple measurements from the same initial perturbation. This is a significant improvement over earlier experiments that were limited to the acquisition of a single image per experiment. The vortex cores can be tracked due to low smoke concentrations at their centers and are observed to move up and then down relative to the bubble. The average bubble and spike amplitude and growth rates measured from the experiments will be compared with current models.

Robert Morgan  
The University of Arizona

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