

Abstract Submitted
for the DFD11 Meeting of
The American Physical Society

The Richtmyer-Meshkov Instability of a New Type of Broadband Initial Condition CHRISTOPHER WEBER, NICHOLAS HAEHN, JASON OAKLEY, DAVID ROTHAMER, RICCARDO BONAZZA, University of Wisconsin-Madison — The Richtmyer-Meshkov instability is experimentally investigated using a broadband initial condition imposed on an interface of helium+acetone over argon. The initial condition is created, first by setting up a gravitationally stable stagnation plane, and then injecting the gases horizontally at the interface to create a shear layer. The perturbations along the shear layer create a statistically repeatable broadband initial condition. The interface is accelerated by a $M = 1.6$ and $M = 2.1$ planar shock wave, inducing a growth of the interface perturbations. The development of this turbulent mixing layer is investigated using PLIF.

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Date submitted: 05 Aug 2011

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