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Simulation of Richtmyer-Meshkov Instability using the Wavelet Adaptive Multiscale Representation (WAMR) SAMUEL PAOLUCCI, ZACHARY ZIKOSKI, University of Notre Dame — The parallel WAMR method is used to simulate the Richtmyer-Meshkov instability of a shocked and re-shocked thin varicose heavy gas layer. The problem is based on the experiments of Balakumar *et al.*,¹ and modelled by the compressible Navier-Stokes equations for a multi-component gas mixture. The WAMR method provides dynamic, spatial grid adaptivity to efficiently capture features over a wide range of physical scales. Results of the simulation are compared with experimental measurements. Additionally, sensitivity of the long-time behavior of the gas layer to various secondary perturbations is investigated.

¹Balakumar *et al.* Phys. Fluids **20**, 124103 (2008).

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