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Linearized Navier-Stokes Solution of the Richtmyer-Meshkov Instability RICHARD KRAMER, DALE PULLIN, California Institute of Technology, CARLOS PANTANO, University of Illinois at Urbana-Champaign, DAN MEIRON, California Institute of Technology — Results are presented from a numerical investigation of the two-dimensional Richtmyer-Meshkov instability, using a linearization about a fully-resolved, 1-D numerical solution of the Navier-Stokes equations. An asymptotically-stable, non-dissipative, fourth-order finite-difference scheme is used with local grid refinement to properly resolve the internal structure of all shocks and the contact zone. Detailed results are shown for the case of a single fluid with constant viscosity and heat conductivity, Pr = 3/4, and incident shock Mach number 1.2, across a range of contact-zone perturbation wavenumbers.

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