

Abstract Submitted
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Effects of viscosity and mass diffusion on the Richtmyer-Meshkov instability at the DT-ice/Be interface JONATHAN ILORETA, UC Berkeley, HARRY ROBEY, ANDREW COOK, JOHN EDWARDS, LLNL, ANDREW SZ-ERI, UC Berkeley — We use Miranda to simulate the Richtmyer-Meshkov (RM) instability at the DT-ice/Be interface of a National Ignition Facility (NIF) capsule in order to determine the stabilizing effects of viscosity and mass diffusion. The RM instability is driven by the first shock of the NIF drive. The simulations are in planar geometry and the interface includes a finite density gradient. We compare our numerical results with two linear analytical models that include viscous effects and comment on the fits. Preliminary results suggest that a new model that incorporates both viscosity and diffusion can be developed.

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