Abstract Submitted
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Investigating shock-driven Richtmyer-Meshkov ripple evolution before and after re-shock[1] S.R. NAGEL, C.M. HUNTINGTON, S.A. MACLAREN, K.S. RAMAN, T. BAUMANN, L.R. BENEDETTI, D.M. DOANE, T.S. ISLAM, S. FELKER, J.P. HOLDER, R.M. SEUGLING, P. WANG, Y.K. ZHOU, Lawrence Livermore National Laboratory, F.W. DOSS, K.A. FLIPPO, T.S. PERRY, Los Alamos National Laboratory — Late-time Rayleigh-Taylor/Richtmyer-Meshkov(RM) ripple growth in an opposing-shock geometry is investigated using x-ray area backlit imaging of a shock-tube with indirectly driven shocks. The shocks are driven from opposing sides of the tube. The ablator layer on one side has pre-imposed ripples in the form of a sine wave with two amplitudes and a single wavelength. This ablator includes an opaque tracer layer that is used to track the perturbed interface as it is driven into a lower density foam. The ablator on the opposing side of the tube is flat, and is used to launch the shock that re-shocks the rippled interface. A large-area backlighter and gated x-ray radiography is used to capture images at different times during the RM instability growth. Here, first measurements obtained with this experimental platform at the NIF, including the optimization of the platform are presented. The RM ripple evolution before and after re-shock, including a possible loss of initial conditions are, also discussed. The data that informs the codes is compared to simulation results

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