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Shock-driven mixing and turbulence ADAM MARTINEZ, JOHN CHARONKO, KATHY PRESTRIDGE , Los Alamos National Laboratory — Experiments using a powder gun driver are able to created Mach 9 shocks in xenon to drive Richtmyer-Meshkov mixing of a xenon-helium interface. At the Los Alamos Neutron Science Center (LANSCE), proton radiography (pRad) we acquire 21-frame movies of areal density of the mixing zone in the test section of the Xe-He shock tube for two different initial conditions at the interface. Analysis shows differences in growth rate and in mixing region structure, and the imprint of the initial condition perturbations is visible throughout the entire sequence of the experiment. Future plans for improvement in the radiography signal-to-noise and the initial condition configuration are also described.

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