

Abstract Submitted
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Shockwave-Driven, Supersonic Kelvin-Helmholtz Instability Experiment on OMEGA-EP WESLEY WAN, GUY MALAMUD, CARLOS DI STEFANO, CAROLYN KURANZ, R. PAUL DRAKE, University of Michigan — Hydrodynamic instabilities are commonly encountered in a variety of high-energy-density systems, including fusion experiments and various astrophysical processes. Shear flow at a fluid interface gives rise to the Kelvin-Helmholtz instability, which then results in mixing between the layers. This talk will cover a recent experiment performed at the OMEGA-EP facility that studied the dampening of the Kelvin-Helmholtz instability as a result of compressibility effects in a high convective Mach number regime. A laser-driven shockwave was used to create shear flow between a low-density foam and high-density plastic. The instability growth was assisted by seeded, single-mode perturbations of varied wavelengths. Our primary diagnostic was x-ray radiography.

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