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Kelvin-Helmholtz instability in magnetized high-energy density plasma¹ RADU PRESURA, SANDRA STEIN, DAVID MARTINEZ, SHOWERA HAQUE, LEELA O'BRIEN, University of Nevada, Reno — Sheared flows perpendicular to a magnetic field often produce the Kelvin-Helmholtz instability (KHI) which mediates mixing across the magnetic field. This was observed, for example, at the interaction of the solar wind with the earth's magnetotail. An experiment was performed on the NTF Zebra z-pinch generator to investigate the KHI development in magnetized high energy density plasma. In an initially planar configuration, plasma flows were generated with sets of parallel wires inclined with respect to the median plane of the pinch. The flow was directed towards an ohmically heated and ablated metallic foil placed in the median plane. Due to the interaction with the plasma formed on the foil surface, the flow was redirected along the foil and acquired a transverse velocity gradient. Vortices characteristic to the KHI were observed.

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