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Kelvin-Helmholtz instability in magnetized plasma flows SANDRA STEIN, DAVID MARTINEZ, SHOWERA HAQUE, LEELA O'BRIEN, MATTHEW TOOTH, RADU PRESURA, University of Nevada, Reno, Nevada Terawatt Facility — Sheared flows are found in many systems in the universe. These sheared flows are generally Kelvin-Helmholtz unstable. In many instances the presence of a magnetic field can influence the evolution of this instability, which depending on the field strength and orientation, has either a stabilizing or destabilizing effect. Experiments to gain insight into the underlying physics were performed at the Nevada Terawatt Facility. These experiments utilized the Zebra pulsed power generator to implode wire arrays with a planar symmetry, onto a center foil. The wires have an angular offset to where the wires' connection was closer to the foil at the cathode than at the anode. This produced an axial plasma flow with a transverse velocity gradient similar to that found in conical wire arrays with a center wire. The time evolution and the morphology of the characteristic Kelvin-Helmholtz vortices were investigated with laser diagnostics.

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