

Abstract Submitted
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Scaling of spontaneous edge plasma rotation in the Large Plasma Device MILO TAYLOR, Berry College, TROY CARTER, University of California: Los Angeles — Spontaneous cross-field rotation is measured in the edge plasma of the Large Plasma Device at UCLA. A spatially-broad mean flow in the ion diamagnetic drift direction is observed near the edge of the cathode source region. Shearing associated with this flow appears to modify edge turbulence and create a weak particle transport barrier. Multiple flow measurements have been made in LAPD using different techniques such as Mach probe, $\mathbf{E} \times \mathbf{B}$ from plasma potential measurements, and time-delay estimation using both Langmuir probe and fast-framing camera images of visible light emission. A comparison between these measurement techniques and how the cross-field flow in LAPD scales with plasma parameters such as magnetic field, discharge current, and fill pressure is demonstrated.

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