

Abstract Submitted
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Measurements of steady-state radial cross-field ion flows in a helicon plasma DEREK THOMPSON, EARL SCIME, M. UMAIR SIDDIQUI, West Virginia University — Radial ion drift velocity, electron temperature, plasma potential, and density profiles in front of a grounded boundary plate were obtained in a helicon plasma for ρ_i/λ ranging from 0.34 to 1.6, in order to directly investigate the effects of ion-neutral collisions on cross field transport. Measurements indicate that such simple scalings do not rigorously predict the behavior of cross-field drift profiles in the presence of simple complications such as multi-dimensional flows. Results are compared to basic fluid models in order to gain further insight on possible complications affecting cross-field transport.

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