

Abstract Submitted  
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**Transport Processes in a Cylinder Immersed in a Weakly Collisional, Magnetized Plasma**<sup>1</sup> ANDREW ALT, YEVGENY RAITSES, Princeton Plasma Physics Laboratory — Plasma-immersed wall experiments were performed in a magnetized Xe plasma in a cross-field penning configuration with density and electron temperature around  $10^{12}$  cm<sup>-3</sup> and 2eV [1]. A cylinder with an open end and diameter of 1.4mm was placed across field lines so that electrons were blocked from reaching a wire recessed behind the shield while Ions were unimpeded. This is the configuration of a magnetically insulated baffled probe, a diagnostic for passively measuring plasma potential [2,3]. The reduction of electron current to the wire causes it to float close to the plasma potential [3]. Electrons have been observed further behind the baffle than expected and possible mechanisms for this have been studied, including a Hall effect at the entrance, ExB drift inside the volume, and other collisional effects. [1] RAITSES, ET. AL., 34TH IEPC, KOBE, JAPAN (2015). [2] KATSUMATA, CONTRIB. PLASMA PHYS. **s**, 73 (1996). [3] DEMIDOV ET. AL., REV. SCI. INSTRUM. **81** 10E129(2010).

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