

Abstract Submitted  
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**Supersonic ExB Rotation in a Highly Ionized, Low Temperature Plasma**<sup>1</sup> MARTIN E. GRISWOLD, YEVGENY RAITSES, NATHANIEL J. FISCH, PPPL — We have built an apparatus to study electron rotation in low temperature plasmas with magnetized electrons and unmagnetized ions. We use a magnetic coil and an electrode to induce electron ExB rotation in a highly ionized low temperature plasma which is supplied by a Hall thruster that we are using as a plasma source. We are interested in studying effects that occur in the plasma when the electron rotation speed approaches the thermal speed of the electrons.

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