Abstract Submitted
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Pressure Anisotropy Measurements on the Terrestrial Reconnection Experiment[1] RACHEL MYERS, JAN EGEDAL, JOSEPH OLSON, SAMUEL GREESS, ALEXANDER MILLET-AYALA, MICHAEL CLARK, PAUL NONN, JOHN WALLACE, CARY FOREST, University of Wisconsin-Madison — The Terrestrial Reconnection Experiment (TREX) at the Wisconsin Plasma Astrophysics Laboratory (WiPAL) studies collisionless magnetic reconnection. In this regime, electron pressure anisotropy should develop, deviating from Hall reconnection dynamics and driving large-scale current layer formation [1]. A multi-tip version of the M-probe of Shadman [2], containing 32 Langmuir probe tips and two magnetic coils, measures this anisotropy. Each tip is biased to a different potential, simultaneously measuring discrete parts of the I-V characteristic. Pulsing the coil locally increases the magnetic field near the tips, inducing a magnetic mirror force to reflect electrons with large values of $v_\perp/v$. The change in velocity modifies the I-V characteristic and can be used to infer $p_\parallel/p_\perp$. Results and analysis from the probe are presented. [1] J. Egedal *et al.*, Nature Phys. (2012). [2] K. Shadman, Phys. Plasmas (2004).

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