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Driving Interchange Flow in a Dipole-Confined Plasma[1] M.W. WORSTELL, B.A. GRIERSON, M.E. MAUEL, Columbia University — The Collisionless Terrella Experiment (CTX) is a device utilizing a dipole field to study interchange and flow. Instabilities excited by hot electrons[2] and centrifugal forces[3] have been observed. This poster investigates several techniques to excite interchange motion and to modify the geometry of the resulting flow patterns. One method utilizes six meshes inserted at the inner edge of the plasma around the magnetic equator. Application of a non-axisymmetric bias to these meshes can cause the plasma at different radii to mix. A second approach uses a large voltage applied to an oversized probe in order to localize the convective motion of the plasma. First results from these investigations will be presented.

[1]This work is supported by U.S. DOE Grant
[2]Levitt, *et al.*, Phys. Plasmas, **9**, 2507 (2002).
[3]Levitt, *et al.*, Phys. Rev. Lett., **94**, 175002 (2005).

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