

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Spontaneous Electromagnetic Emission from a Strongly Localized Plasma Flow¹ ERIK TEJERO, Auburn University, WILLIAM AMATUCCI, GURUDAS GANGULI, Naval Research Laboratory, CHRISTOPHER COTHRAN, Global Defense Technology & Systems, Inc., EDWARD THOMAS, JR., Auburn University — Laboratory observations of electromagnetic ion cyclotron waves generated by a localized transverse dc electric field are reported. Experiments indicate that these waves result from a strong $\mathbf{E} \times \mathbf{B}$ flow inhomogeneity in a mildly collisional plasma with sub-critical magnetic field-aligned current. The wave amplitude scales with the magnitude of the applied radial dc electric field. The electromagnetic signatures become stronger with increasing plasma β , and the radial extent of the power is larger than that of the electrostatic counterpart.

¹Work supported by Office of Naval Research.

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Date submitted: 26 Jul 2010

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