

Abstract Submitted  
for the DPP08 Meeting of  
The American Physical Society

**Experiments on the critical ionization velocity limit effect in MCX** CATALIN TEODORESCU, R. CLARY, R. ELLIS, A. HASSAM, I. UZUNKAYMAK, W. YOUNG, University of Maryland — Magnetized rotating plasmas rely on large, supersonic plasma rotation velocity to achieve centrifugal confinement. Previous experiments in MCX documented the existence of a hard rotation velocity at or below the Alfvén velocity. In addition, plasma voltage is seen to be limited in the Ordinary mode (O mode) to a value consistent with the critical ionization velocity limit. CIV has been documented in experiments on magnetized rotating plasmas since early 1960's. Current work at MCX shows that the limit on maximum plasma velocity in the O mode is consistent with neutral-plasma interaction at the end insulator. Presented will be various ways of overcoming the CIV limit during the O mode. Results from the diagnostics placed near the insulator (spectrometer, interferometer, hydrogen-alpha line detectors) will be discussed.

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Date submitted: 17 Jul 2008

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