

Abstract Submitted
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Overview of the Maryland Centrifugal Experiment RICHARD ELLIS, SEUNGHO CHOI, RYAN CLARY, RAYMOND ELTON, ADIL HASSAM, CARLOS TALAMAS, University of Maryland, CATALIN TEODORESCU, ILKER UZUN-KAYMAK, University of Maryland, SARAH MESSER, ANDREW CASE, DOUGLAS WITHERSPOON, HyperV Technologies — Recent results on MCX include : a) further measurements of ion rotational velocity profiles demonstrate shear in the rotation that exceeds the critical value for shear stabilization; b) a new insulator has eliminated the transition from high-rotation mode to low rotation mode; c) a study of the scaling of maximum rotational velocity shows that it is clearly limited from above by the Alfvén velocity - the CIV limit is under study; d) magnetic probe measurements show that B fluctuations are dominated by a spectrum of low m number modes, indicating all high m modes are stabilized by velocity shear ; e) diamagnetic loop measurements at a variety of axial locations, and corresponding MHD analysis, are consistent with centrifugal confinement; f) a new plasma injection gun has been installed and tested on MCX; injection experiments will be reported; g) a new 16 chord H α array has been implemented and an off center IR interferometer is almost complete for confirming centrifugal confinement. Upgrade plans will also be discussed.

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