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Overview of the Maryland Centrifugal Experiment (MCX)¹ RICHARD ELLIS, RYAN CLARY, RAY ELTON, ADIL HASSAM, ROBERT LUNSFORD, CATALIN TEODORESCU, University of Maryland, ANDREW CASE, MICHAEL PHILLIPS, DOUGLAS WITHERSPOON, HyperV Technologies, UNIVERSITY OF MARYLAND COLLABORATION, HYPERV TECHNOLOGIES COLLABORATION — The mission of MCX is to study centrifugal confinement and velocity shear stabilization of interchange instabilities in a linear magnetic geometry. New results include measurements of the radial profiles of rotational velocity employing multi-chord high resolution spectroscopy of impurity ion spectral lines; these show velocity shear sufficient for stabilization. Measurements of the axial dependence of rotation velocity will also be presented. A higher voltage (20 kV) discharge capacitor bank has been implemented and a study of velocity limitations for a variety of discharge parameters and insulator configurations, including transitions between discharge modes, will be reported. A new multi-chord H_α emission array of detectors is being developed to measure radial profiles of neutral hydrogen and correlate with momentum confinement times. A collaboration with HyperV Technologies is underway to study the injection of plasmoids into MCX employing a new innovative plasma gun, which is nearing completion.

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Prefer Oral Session
 Prefer Poster Session

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