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**Electron Cyclotron Measurements on the Maryland Centrifugal Experiment** REMINGTON REID, University of Maryland, WILLIAM YOUNG, CHRISTINA ALLEN, RICHARD ELLIS, CARLOS ROMERO-TALAMAS, ADIL HASSAM — The Maryland Centrifugal Experiment (MCX) uses supersonic rotation to stabilize dense plasmas (n$\sim 10^{14}$/cc) confined in an axisymmetric magnetic mirror. This rotation is generated using an axial electrode to drive large radial currents though the plasma. The MCX plasma delivers a sufficient heat flux to make the vast majority of the plasma inaccessible to electrostatic probes, making direct measurements of the electron temperature unworkable. Electron cyclotron radiation, propagating in the whistler mode has been used in past experiments to measure the axial electron temperature distribution in mirror type machines and has the advantage of working in very dense plasmas. A radiometer has been installed on MCX to measure this radiation and the axial electron temperature is being measured. Abrupt changes in the intensity of the ECE radiation are correlated with bulk plasma instabilities provide information to further diagnose these instabilities.

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