

Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

The effects of azimuthal rotation of a cylindrical plasma are analyzed on the Large Plasma Device (LAPD) at UCLA¹ MAISE SHEPARD, DAVID SCHAFFNER, Bryn Mawr College — Rotating the plasma is employed as a method of further containment. Previous work has shown that outward transport is reduced, but that coherent modes can develop in the edge at large rotation rates. Before officially implementing this method into regular data collection and analysis, the effects of rotation on the plasma must be studied. The nature of this coherent mode is studied using a spatial cross-correlation method. This method compares ion saturation fluctuation data from two Langmuir probes separated in space. From these spatial correlations, a dispersion relation of the coherent modes is pursued. Understanding the properties of plasma at a high azimuthal rotation will be helpful in the future of cylindrical plasma data collection.

¹This work is supported by the NSF-DOE Partnership in Basic Plasma and by an NSF CAREER Award

Maise Shepard
Bryn Mawr College

Date submitted: 12 Jul 2019

Electronic form version 1.4