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Preliminary Experimental Study of Coronal Plasma Jets due to Spheromak Tilt Instability LANDON BEVIER, University of Washington, MASAAKI YAMADA, JONGSOO YOO, PPPL — Activity in the solar corona such as flares, coronal mass ejections, and coronal jets are driven by the release of energy through magnetic reconnection events. Understanding the mechanism(s) behind coronal jets has been long sought-after in solar and space physics. We propose coronal jets could be modeled by embedding a hemispherical spheromak-like closed field structure inside a large scale open field. In the boundary between these structures, current filaments form then undergo a reconnection event linking them to the open field lines, thereby allowing the filaments to become a plasma jet(1). It is postulated that this reconnection event may be related to the global reconnection which occurs during the spheromak tilt instability. This poster explores the results from a preliminary experiment done on the Magnetic Reconnection Experiment (MRX) in which a spheromak is formed inside of an equilibrium field. Using a magnetic probe array and correlating fast camera data of the CII and CIII lines, the interaction between the closed spheromak structure and the equilibrium field is observed and analyzed. Ref. P.F. Wyper et al., Nature 544, 452, 2017

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