Abstract Submitted
for the DPP14 Meeting of
The American Physical Society

Design of a triple plasma device for double layer and turbulence investigations[1] JUSTIN KIM, CORY JACKSON, NOAH HERSHKOWITZ, M. UMAIR SIDDIQUI, Univ of Wisconsin, Madison — A triple plasma device is being constructed at the University of Wisconsin- Madison for basic plasma physics investigations. The device consists of two outer chambers and a central chamber. Separate plasmas are generated in the two outer chambers, and their interactions are measured in the central chamber. DC plasma is generated via thermionic emission of electrons from a hot-filament and rf plasma is generated either capacitively or inductively. The device is used to investigate double layer structures [Coakley and Hershkowitz, Physics of Fluids **22,** 1171 (1979)] and beam plasma instabilities. The design, construction, and operation of this device are discussed. Initial results are presented here.

[1]This work is funded by U.S. Department of Energy Grant No. DE-FG02-97ER54437 and NSF Undergraduate Funding

Justin Kim
Univ of Wisconsin, Madison

Date submitted: 10 Jul 2014 Electronic form version 1.4