

Abstract Submitted
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The STPX Spheromak System: Recent Measurements and Observations R. L. WILLIAMS, J. CLARK, M. RICHARDSON, R. E. WILLIAMS, Florida A. and M. University — We present results of recent measurements made to characterize the plasma formed in the STPX* Spheromak plasma device installed at the Florida A. and M University. The toroidal plasma is formed using a pulsed cylindrical gun discharge and, when fully operational, is designed to approach a density of 10^{21} /m³ and electron temperatures in the range of 100-350 eV. The diagnostic devices used for these recent measurements include Langmuir probes, electrostatic triple probes, optical spectrometers, CCD detectors, laser probes and magnetic field coils. These probes have been tested using both a static and the pulsed discharges created in the device, and we report the latest measurements. The voltage and current profiles of the pulsed discharge as well as the pulsed magnetic field coils are discussed. Progress in modeling this spheromak using NIMROD and other simulation codes will be discussed. Our recent results of an ongoing study of the topology of magnetic helicity are presented in a separate poster. (*Spheromak Turbulent Physics Experiment)

Ronald Williams
Florida A. and M. University

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