Abstract Submitted for the DPP15 Meeting of The American Physical Society

Development of the STPX Spheromak System R.L. WILLIAMS, J. CLARK, C.A. WEATHERFORD, Florida A&M University — The progress made in starting up the STPX Spheromak system, which is now installed at the Florida A&M University, is reviewed. Experimental, computational and theoretical activities are underway. The control system for firing the magnetized coaxial plasma gun and for collecting data from the diagnostic probes, based on LabView, is being tested and adapted. Preliminary results of testing the installed magnetic field probes, Langmuir triple probes, cylindrical ion probes, and optical diagnostics will be discussed. Progress in modeling this spheromak using simulation codes, such as NIMROD, will be discussed. Progress in investigating the use of algebraic topology to describe this spheromak will be reported.

Date submitted: 24 Jul 2015 Electronic form version 1.4