

Abstract Submitted
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Incorporation of the Data Acquisition System with a Small Helicon Plasma Experiment (HPX)¹ STEPHEN NOLAN, R.W. JAMES, E.L. PAGE, J. ZUNIGA, C. SCHLANK, M. LOPEZ, J. SHERMAN, B.S. STUTZMAN, United States Coast Guard Academy — At the Coast Guard Academy Plasma Lab (CGAPL), a small Helicon Plasma Experiment (HPX) is being developed to utilize the reputed high densities (10^{13} cm⁻³ and higher) at low pressure (.01 T) [1], in high temperature and density diagnostic development for future laboratory investigations. With first plasmas at hand, HPX is constructing triple and mach particle probes, magnetic probes, and a single point Thompson Scattering system for HPX plasma property investigations. A 32-channel National Instruments Data Acquisition (DAQ) Board capable of sampling at 12 bits of precision at 2 MS/s and running multiple simultaneous experiments is currently under construction. This DAQ System with integrated storage and GUI's will gather and digitize plasma data from the associated diagnostics for further analysis. Progress on the current implementation of the DAQ system will be reported.

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