

Abstract Submitted
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Progress on Langmuir Probe, Data Analysis, Acquisition and Optimization Innovations at the Coast Guard Academy Plasma Lab (CGAPL)¹ ERIN WRIGHT, JOHN FRANK, PHIL AZZARI, ROYCE JAMES, JORDAN HOPSON, OMAR DUKE-TINSON, RICHARD PAOLINO, EVA SANDI, JUSTIN SHERMAN, JEREMY TURK, US Coast Guard Academy Plasma Lab — CGAPL houses four major plasma experiments that span large temperature, density, energy and functionality regimes. Often automation and remote operation of intelligent devices are required in adverse operating environments for digital and analogue systems. Plasma data collected by a multitude of diagnostics and sensors (to include Langmuir probes) over long timescales mandates CGAPL's 40-channel Data Acquisition (DAQ) system that collects and stores data plus controls CGAPL. The ability to remotely control and operate lab diagnostics then collect and store data through a LabView collective Graphic User Interface (GUI) currently under construction, enable users to remotely control, collect, and store CGAPL experimental data. Innovative solutions to optimize data collection and apparatus command and control, will enhance the ability to run experiments remotely, improve the validity of results, and advance participation in fusion grade diagnostic development. Instrument automation, optimization, and data collection obstacles, solutions, and procedures will be reported.

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