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P4.078 Implementation Details of an Upgrade to the EAST Poloidal Field Power Supply DAQ System

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The Experimental Advanced Superconducting Tokamak (EAST) poloidal Field Power Supply has recently implemented the upgrade of the control system. Inspired by the ITER Control Data Access and Communication (CODAC) system, experimental physics and industrial control system (EPICS) has been chosen for the control system. The Data Acquisition (DAQ) system is an important subsystem of the overall control system. This DAQ upgrade is based on the EPICS design to meet the requirements of long pulse discharge within the tokamak and be consistent with the existing control system. The I/O interrupt mechanism on the device support module in EPICS is used to read changed data, which reduces the network communication load. The asyn-Driver is used to develop the device specific interfacing code for the DAQ card driver. The benefits of this upgrade include a significant reduction in the number of source files and lines of code as well as better trace and debugging control. The DAQ system has had good performance during the experiments and convenient human-machine interface to satisfy the requirements of all the experiments and experimenters. This paper describes the details of implementations

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