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## Application of EPICS in HL-2A Host Centralized Control System

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In order to improve the capability of Tokamak measurement and control system, centralized measurement and control system with compatibility and continuous upgrade ability is needed to build. EPICS has advantages of safety, easy expansion etc. in this paper, HL-2A host centralized control system based on EPICS is developed and designed. Communication between SoftIO and PLC was realized using the s7nodave device driver module. Through the CSS application development, real-time communication between OPI layer and subsystem has been realized, and the PLC of the subsystems can be integrated to the EPICS control system. In order to manage subsystem of HL-2A host device more intuitive and convenient, the state mode of HL-2A centralized control system is deeply researched based on the theory of CODAC state machine. Standard system states are defined, subsystems are converted to the state in a given order. The state of other system synchronize as the state of a system changes. HL-2A host control system based on the state machine mode is not only easy to centralize management of each subsystem, but also can realize the interlock and protection among subsystems. HL-2A host centralized control system prepare for design on the next generation device host centralized control system.

### Eligible for student paper award?

No

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