APPLICATION OF MDSPLUS FOR THE MANAGEMENT OF THE PULSED-BASED EXPERIMENTAL DATA IN KSTAR TOKAMAK

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Abstract

Different from the accelerator to operate continuously, the KSTAR as a tokamak device which has features of continuous operation and shot-based pulse operation has different types of data generated. One is a continuous plant data coming from a vacuum monitoring system, a tokamak monitoring system, and this data is archived with EPICS channel archiver. The other is a shot-based experimental data generated only for a plasma discharge shot. This type of data is archived using MDSplus which is widely used in the fusion environment. In the category of the experimental data, every diagnostics data, heating parameters and real-time plasma feedback data belong here. Besides MDSplus, EPICS channel archiver is partially used to archive the configuration parameters of DAQ systems and shot information. Because experimental data are transferred to a central storage after the completion of a discharge shot, low-speed run-time data is archived in duplicate using EPICS channel archiver to monitor plasma during a shot. This paper will present the application of MDSplus for management of pulse data from tokamak device in conjunction with EPICS channel archiver according to the applications.

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Data and Information management