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Status of MTCA at Korea Superconducting Tokamak Advanced Research (KSTAR) facility

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The KSTAR device is a medium-size, D-shaped tokamak with the major machine parameters of R = 1.8m, a = 0.5m, B = 3.5T, Ip = 2 MA, κx = 2.0 and δx = 0.8. Its main research goal is to demonstrate the steady-state operation in the high-performance, advanced tokamak (AT) modes. The KSTAR Integrated Control System (KICS) is composed of various heterogeneous controllers, and it is a networked-based distributed control system based on EPICS. All possible open source tools such as MDSpluse, Qt, MySQL, etc. are integrated inside KICS. Since the first campaign, lots of control systems are annually developed and installed. Now, KSTAR operation has entered into the second phase. It means high-efficient plasma is generated for longer period. We consider the MTCA platform as a basic real time control system environment. Modulized standard components will be implemented for the next decade campaign.
This presentation describes the current work of the MTCA based control system at KSTAR. We also introduce the activity of customized digital control systems for the plasma diagnostics.

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