

An Overview of Data Acquisition and Plasma Control System of Thailand Tokamak I

The first tokamak in Thailand is being setup by Thailand Institute of Nuclear Technology (TINT) at the Ongkharak site, Nakorn Nayok. In the initial phase of the tokamak, plasma current of 50 kA, with density of 10^{18} m^{-3} under the magnetic field of 1.5 Tesla is expected. Plasma discharge of typically 100 ms is foreseen for each shot and a few hundred shots daily. Machine preparation and monitoring prior to, during and after plasma discharge are thus very important. Also during plasma discharge, a few plasma diagnostic systems (DAQ) are activated. Signals from different equipment either for preparation, monitoring, control or diagnostic form a considerably large set of data at a moderate repetition rate and be acquired by a plasma control system (PCS). In this contribution, details of DAQ, will be discussed. The current design of DAQ will include 192 channels with 10-250 kHz for diagnostic, and 5 GB data for daily storage, total of 500 GB storage for one-year operation (100 days).

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Primary author: WONGHABUT, pasit (Thailand Institute of Nuclear Technology (Public Organization))

Co-authors: Ms PROMPING, Jiraporn; NILGUMHANG, Kewalee (Thailand Institute of Nuclear Technology (Public Organization)); TAMMAN, Arlee (TINT); Mr SANGWANG, Wutthichok (Thailand Institute of Nuclear Technology (Public Organization)); SAIDARASAMOOT, Kamtorn (Thailand Institute of Nuclear Technology (Public Organization)); POOLYARAT, Nopporn; DANGTIP, Sam

Presenter: WONGHABUT, pasit (Thailand Institute of Nuclear Technology (Public Organization))

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