CONTROL SYSTEM DESIGN FOR CENTRAL JAPAN SYNCHROTRON RADIATION RESEARCH FACILITY

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Abstract

A control system for Central Japan Synchrotron Radiation Research Facility has been designed. Central Japan Synchrotron Radiation Research Facility is a synchrotron light source planed by a local prefectural government, industries, universities, and research institute in the Aichi area of Japan..The synchrotron radiation (SR) facility has been expected as an adaptable facility not only for basic research, but also for engineering and industry-oriented research and development. The facility, consisting of accelerators, beamlines, peripheral equipments and housing, has been designed at the Nagoya University Synchrotron Radiation Research Center. The accelerators consists of a linac, a full energy booster synchrotron and a compact storage ring, which is able to supply hard X-rays from superconducting bending magnets. An important issue on this facility is its tightly restricted budget and, hence, the limited number of staff in the facility. Thus, the control system should be simple, robust and inexpensive. To reply these needs, we have considered to use Ethernet-based data communication systems and a database management system.

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