

Detector Control System for the ALICE Experiment at the CERN-LHC

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The ALICE (A Large Ion Collider Experiment) experiment is designed for a dedicated study of heavy ion collisions at the Large Hadron Collider (LHC) at CERN in Geneva, at energies up to 1150 TeV(2.75TeV/u). ALICE is composed of 18 detection systems based on different technologies including semiconductor, gas, scintillation, cherenkov detectors. To ensure a safe and correct operation and monitoring of the ALICE experiment, a sophisticated control system is used, called the Detector Control System (DCS). The main aim of the DCS is to provide safe and efficient operation of all the experimental equipments in such a way that the whole ALICE experiment can be operated remotely from one single workplace.

The Control System has several subsystems. These subsystems have been implemented using a commercial SCADA system called PVSS and a toolkit developed at CERN called the JCOP framework. The State Manager Interface (SMI++) has been used to model the detector behaviour on Finite State Machines (FSM). The DCS has proved its robustness and efficiency during LHC operation in previous years. Detailed features of the ALICE DCS will be discussed.

Primary author: GUPTA, Anik (University of Jammu (IN))

Presenter: GUPTA, Anik (University of Jammu (IN))

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