



Contribution ID: 43

Type: **Poster**

ALICE's detectors safety and efficiency optimization with automatic beam-driven operations

Thursday 24 May 2012 13:30 (4h 45m)

ALICE is one of the four main experiments at the CERN Large Hadron Collider (LHC) in Geneva.

The Alice Detector Control System (DCS) is responsible for the operation and monitoring of the 18 detectors of the experiment and of central systems, for collecting and managing alarms, data and commands. Furthermore, it is the central tool to monitor and verify the beam mode and conditions in order to ensure the safety of the detectors.

Experience with systems and beams has allowed for a continuous evolution of the DCS in the direction of automatizing actions based on detector status and beam conditions, which otherwise were left to the judgement of the shift crew. Both the safety of the detectors and the data taking efficiency of the experiment benefits from this strategy.

This paper shows how the DCS is interpreting the daily operations from a beam-driven point of view. A tool is implemented, where automatic actions can be set and monitored through expert panels, with a custom level of automation. Several routine operations are already in place in a fully automatized fashion: e.g. the transition to a safe state of the detectors during critical beam modes such as injection, as communicated by the LHC, to avoid potentially unsafe situations and unnecessary delays to the accelerator procedures.

Author: PINAZZA, Ombretta (Universita e INFN (IT))

Co-authors: KUREPIN, Alexander (Moscow Physical Engineering Institute (MePhI)); AUGUSTINUS, Andre (CERN); LECHMAN, Mateusz (CERN); CHOCHULA, Peter (CERN); BOND, Peter Matthew (University of the West of England)

Presenter: PINAZZA, Ombretta (Universita e INFN (IT))

Session Classification: Poster Session

Track Classification: Online Computing (track 1)