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The Monitoring, Logging, and Alarm system for the Cherenkov Telescope Array

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We present the current development of the Monitoring, Logging and Alarm subsystems in the framework of the Array Control and Data Acquisition System (ACADA) for the Cherenkov Telescope Array (CTA). The Monitoring System (MON) is the subsystem responsible for monitoring and logging the overall array (at each of the CTA sites) through the acquisition of monitoring and logging information from the array elements. The MON allows us to perform a systematic approach to fault detection and diagnosis supporting corrective and predictive maintenance to minimize the downtime of the system. We present a unified tool for monitoring data items from the telescopes and other devices deployed at the CTA array sites. Data are immediately available for the operator interface and quick-look quality checks and stored for later detailed inspection.

The Array Alarm System (AAS) is the subsystem that provides the service that gathers, filters, exposes, and persists alarms raised by both the ACADA processes and the array elements supervised by the ACADA system. It collects alarms from the telescopes, the array calibration, the environmental monitoring instruments and the ACADA systems. The AAS sub-system also creates new alarms based on the analysis and correlation of the system software logs and the status of the system hardware providing the filter mechanisms for all the alarms. Data from the alarm system are then sent to the operator via the human machine interface.

Keywords

monitoring, logging, alarms, Cherenkov Telescope, CTA

Collaboration

CTA

other Collaboration

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Subcategory

Experimental Methods & Instrumentation

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