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Web System to support analysis for experimental equipment commissioning

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During the ATLAS detector commissioning phase, installed readout electronics must pass performance standards tests. The resulting data must be analyzed to ensure correct operation. For the Tile Calorimeter, developers plug their code into a specific framework for physics data-processing,. Collaboration members, taking shifts on commissioning work, interpret the results, in thousands of readout channels, to identify potential problems that may need correction during commissioning.

The Tile Commissioning Web System (TCWS) facilitates the repetitive data analysis and quality control by encapsulating all necessary steps to retrieve information, execute programs, access the outcomes, register statements, and verify the equipment status. TCWS integrates different applications, each presenting a particular view of the commissioning process. The TileComm Analysis application stores plots and analysis results, provides equipment-oriented visualization, collects information regarding equipment performance, and summarizes its status. The Timeline application provides equipment status history in a chronological way. The Web Interface for Shifters application supports monitoring tasks by managing test parameters, graphical views of the calorimeter performance, and information status of all equipment that was used in each test. Finally, equipment quality control data can be filled, stored, modified, and retrieved as hypertext forms through the ATLASMonitor application. These applications are also connected with other commissioning programs that allow an automatic gathering of the commissioning data.

This paper describes in detail the programs that compose the TCWS and how they are integrated within the Tile Calorimeter commissioning. Current status and future work are also discussed

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

Tile

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