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Data Quality Monitoring for the CMS Electromagnetic Calorimeter

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The electromagnetic calorimeter of the Compact Muon Solenoid experiment will play a central role in the achievement of the full physics performance of the detector at the LHC. The detector performance will be monitored using applications based on the CMS Data Quality Monitoring (DQM) framework and running on the High-Level Trigger Farm as well as on local DAQ systems. The monitorable quantities are organized into hierarchical structures based on the physics content. The information produced is delivered to client applications according to their subscription requests. The client applications process the received quantities, according to pre-defined analyses, thus making the results immediately available, and store the results in a database, and in the form of static web pages, for subsequent studies. We describe here the functionalities of the CMS ECAL DQM applications and report about their use in a real environment. In particular we detail the usage of the DQM during the data collection campaigns at the 2006 electron calibration test beams, at the cosmic muon calibration stand (2005-2007), at the CMS slice test (2006 Magnet Test and Cosmic Challenge), and during the installation and commissioning of the calorimeter in the CMS experimental area.

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

on behalf of the CMS Electromagnetic Calorimeter Group

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