

The Data Quality Monitoring in CMS experiment

Friday 31 July 2020 13:10 (15 minutes)

The Data Quality Monitoring (DQM) service is critical in several key aspects of the data analysis for the CMS detector. From the Online world, for real-time detector monitoring, to the detailed checks and fine-grained data analysis in Offline, in order to provide the best possible data quality for Physics analyses. Besides, the DQM software is extensively used to validate reconstruction software and simulated data production, key ingredients for any successful physics measurement.

The DQM system achieved excellent performance in LHC Run1 and Run2 data taking periods: a stable set of needed software tools has been established and specific, mature, monitoring procedures for single sub-detectors or “physics objects” reconstruction are available. This solid baseline will be described, with emphasis on the main developments and challenges faced in these exciting years. In addition, during the current LS2 several improvements and important upgrades in the core DQM software to exploit more efficiently the multithreading computing have been achieved, which will be presented along with other few interesting new activities like trying to introduce Machine Learning techniques into the process in preparation for Run3.

I read the instructions

Secondary track (number)

Author: KIRILOVAS, Andrius (Vilnius Univ.)

Presenter: KIRILOVAS, Andrius (Vilnius Univ.)

Session Classification: Operation, Performance and Upgrade of Present Detectors

Track Classification: 12. Operation, Performance and Upgrade of Present Detectors