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A software framework for Data Quality Monitoring in ATLAS

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Data Quality Monitoring (DQM) is an important and integral part of the data taking and data reconstruction of HEP experiments. In an online environment, DQM provides the shift crew with live information beyond basic monitoring. This is used to overcome problems promptly and help avoid taking faulty data. During the off-line reconstruction DQM is used for more complex analysis of physics quantities and its results are used to assess the quality of the reconstructed data.

The Data Quality Monitoring software Framework (DQMF) which has been provided for the ATLAS experiment performs analysis of monitoring data through user defined algorithms and relays the summary of the analysis results to the configurable Data Quality output stream. From this stream the results can be stored to a database, displayed on a GUI, or used to make some other relevant actions with respect to the operational environment ie sending alarms, stopping the run. This paper describes the implementation of the DQMF and discusses experience from usage and performance of the DQMF during ATLAS commissioning.

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

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