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ATLAS Data Quality Offline Monitoring

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The ATLAS experiment at the Large Hadron Collider reads out 100 Million electronic channels at a rate of 200 Hz.
Before the data are shipped to storage and analysis centres across the world, they have to be checked to be free from irregularities which render them scientifically useless. Data quality offline monitoring provides prompt feedback from full first-pass event reconstruction at the Tier-0 computing centre and can unveil problems in the detector hardware and in the data processing chain.

Detector information and reconstructed proton-proton collision event characteristics are distilled into a few key
histograms and numbers which are automatically compared with a reference. The results of the comparisons are saved as
status flags in a database and are published together with the histograms on a web server. They are inspected by a 24/7
shift crew who can notify on-call experts in case of problems and in extreme cases signal data taking abort.

The talk explains the technical realisations of the offline monitoring chain.

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oral

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