

# Muon detector calibration in the ATLAS experiment: online data extraction and data distribution

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In the ATLAS experiment, fast calibration of the detector is vital to feed prompt data reconstruction with fresh calibration constants. We present the use case of the muon detector, where an high rate of muon tracks (small data size) is needed to accomplish calibration requirements. The ideal place to get data suitable for muon detector calibration is the second level trigger, where the pre-selection of data by the first level trigger allows to select all and only the hits from isolated muon tracks and to add useful information to seed the calibration procedures. The online data collection model for calibration data is designed to minimize the use of additional resources, without affecting the behaviour of the trigger/DAQ system. Collected data are then streamed to remote Tier 2 farms dedicated to detector calibration. Measurements on the pre-series of the ATLAS TDAQ infrastructure and on the standard LHC data distribution path are shown, proving the feasibility of the system.

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