

# ATLAS Tile Calorimeter Data Preparation for LHC first beam data taking and commissioning data

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TileCal is the barrel hadronic calorimeter of the ATLAS experiment presently in an advanced state of commissioning with cosmic and single beam data at the LHC accelerator.

The complexity of the experiment, the number of electronics channels and the high rate of acquired events requires a systematic strategy of the System Preparation for the Data Taking.

This is done through a precise calibration of the detector, prompt update of the DataBase reconstruction constants, validation of the Data Processing and assessment of the System Data Quality both with calibration signals as well as processing data obtained with cosmic muons and the first LHC beam.

This review will present the developed strategies and tools to calibrate the detector and to monitor the variations of the extracted calibration constants as a function of time;

the present plan and future upgrades to deploy and update the detector constants used in reconstruction;

the techniques employed to validate the reconstruction software;

the set of tools of the present TileCal data quality system and its integration in ATLAS online and offline frameworks.

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