

ATLAS Tile Calorimeter time calibration, monitoring and performance

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The Tile Calorimeter (TileCal) is the hadronic calorimeter covering the central region of the ATLAS experiment at the LHC. This sampling device is made of plastic scintillating tiles alternated with iron plates and its response is calibrated to electromagnetic scale by means of several dedicated calibration systems.

The accurate time calibration is important for the energy reconstruction, non-collision background removal as well as for specific physics analyses. The initial time calibration with so-called splash events and subsequent fine-tuning with collision data are presented. The monitoring of the time calibration with laser system and physics collision data is discussed as well as the corrections for sudden changes performed still before the recorded data are processed for physics analyses. Finally, the time resolution as measured with jets and isolated muons particles is presented.

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