



Contribution ID: 43

Type: Poster

Status of the Atlas Liquid Argon Calorimeter and its Performance after Two Years of LHC Operation

Tuesday, 22 May 2012 13:16 (0 minutes)

The ATLAS experiment is designed to study the proton-proton collisions produced at the Large Hadron Collider(LHC) at CERN. Liquid argon sampling calorimeters are used for all electromagnetic calorimetry covering the pseudo-rapidity region up to 3.2, as well as for hadronic calorimetry in the range 1.4-4.9. The electromagnetic calorimeters use lead as passive material and are characterized by an accordion geometry that allows a fast and uniform azimuthal response without any gap. Copper and tungsten were chosen as passive material for the hadronic calorimetry; whereas a classic plate geometry was adopted at large polar angles, an innovative one based on cylindrical electrodes with thin argon gaps was designed for the coverage at low angles, where the particles flow is higher. All detectors are housed in three cryostats kept at 87 K. After installation in 2004-2006, the calorimeters were extensively commissioned over the three years period prior to first collisions in 2009, using cosmic rays and single LHC beams. Since then, around 5 fb^{-1} of data have been collected at a center of mass energy of 7 TeV. During all these stages, the calorimeter and its electronics have been operating almost optimally, with performances very close to the specification ones. The talk will cover all aspects of these first years of operation, including the calibration efforts, the data quality assessment procedure, and the final performance.

for the collaboration

ATLAS Liquid Argon Calorimeter Group

Presenter: Mrs APERIO BELLA, Ludovica (LAPP)**Session Classification:** Calorimetry - Poster Session**Track Classification:** P8 - Calorimetry