



Contribution ID: 734

Type: **Parallel talk**

ATLAS LAr Calorimeter Performance in LHC Run-2

Friday, July 12, 2019 12:30 PM (15 minutes)

Liquid argon (LAr) sampling calorimeters are employed by ATLAS for all electromagnetic calorimetry in the pseudo-rapidity region $|\eta| < 3.2$, and for hadronic and forward calorimetry in the region from $|\eta| = 1.5$ to $|\eta| = 4.9$. In the first LHC run a total luminosity of 27 fb⁻¹ has been collected at center-of-mass energies of 7-8 TeV. After detector consolidation during a long shutdown, Run-2 started in 2015 and about 150fb⁻¹ of data at a center-of-mass energy of 13 TeV have been recorded.

In order to realize the level-1 acceptance rate of 100 kHz in Run-2 data taking, the number of read-out samples recorded and used for the energy and the time measurement has been modified from five to four while keeping the expected performance.

The well calibrated and highly granular LAr Calorimeter reached its design values both in energy measurement as well as in direction resolution.

This contribution will give an overview of the detector operation, hardware improvements, changes in the monitoring and data quality procedures, to cope with increased pileup, as well as the achieved performance, including the calibration and stability of the electromagnetic scale, noise level, response uniformity and time resolution.

Primary author: ATLAS COLLABORATION

Presenter: MILIC, Adriana (University of Toronto (CA))

Session Classification: Detector R&D and Data Handling

Track Classification: Detector R&D and Data Handling