



Contribution ID: 218

Type: Poster

ATLAS LAr Calorimeter Performance in Run 1 and Run 2

The ATLAS detector was designed and built to study proton-proton collisions produced at the LHC at centre-of-mass energies up to 14 TeV and instantaneous luminosities up to $10^{34} \text{ cm}^{-2} \text{ s}^{-1}$. Liquid argon (LAr)

sampling calorimeters are employed for all electromagnetic calorimetry in the pseudo-rapidity region $|\eta| < 3.2$,

and for hadronic 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. Following a period of detector consolidation during a long shutdown, Run-2 started in 2015 with approximately 3.9 fb^{-1} of data at a center-of-mass energy of 13 TeV recorded in this year. The well calibrated and highly granular Liquid Argon Calorimeter achieved its design values both in energy measurement as well as in direction resolution, which was

a main ingredient for the successful discovery of a Higgs boson in the di-photon decay channel. This contribution will give an overview of the detector operation, monitoring and data quality, as well as the achieved performance, including the calibration and stability of the electromagnetic scale, response uniformity and time resolution.

Author: KUWERTZ, Emma Sian (University of Victoria (CA))

Presenter: KUWERTZ, Emma Sian (University of Victoria (CA))

Session Classification: Poster Session

Track Classification: LHC experiments: performance and potential