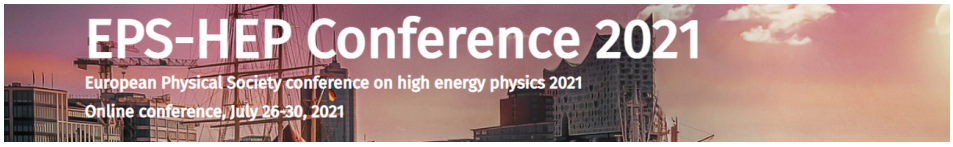

Contribution ID: **343** Type: **Poster**

Performance and calibration of the ATLAS Tile Calorimeter

The Tile Hadronic Calorimeter (TileCal) covers the central region of the ATLAS experiment. Wavelength-shifting fibres carry the light from active plastic scintillator tiles interspersed with steel absorber plates to photomultiplier tubes (PMTs). Analogue response of the PMTs are amplified, shaped, and digitized by a front-end electronics system that samples the signal from about 10000 channels every 25 ns and stores the data on detector until a trigger decision is received. The dynamic range of each tile covers from ~30 MeV to ~2 TeV. Each step of the process - from collection of scintillation light to signal reconstruction is monitored and calibrated. During LHC Run-2, high-momentum isolated muons and isolated hadrons were used to calibrate the electromagnetic and hadronic response, respectively. The time resolution was studied with multi-jet events. We shall summarize results of performance studies that address calibration, stability, energy scale, uniformity and time resolution.

First author

Sandra Leone

Email

sandra.leone@cern.ch

Collaboration / Activity

ATLAS Collaboration

Primary author: ATLAS COLLABORATION

Presenter: GOMZ DELEGIDO, Antonio Jesus (Valencia)

Session Classification: T12: Detector R&D and Data Handling

Track Classification: Detector R&D and Data Handling