



Contribution ID: 16

Type: **Talk**

Performance of the CMS Electromagnetic Calorimeter in Run3

Wednesday 28 August 2024 12:20 (20 minutes)

The electromagnetic calorimeter (ECAL) of the CMS experiment at LHC plays a crucial role in various physics analyses, spanning from Higgs measurements to the exploration of new physics phenomena. Achieving optimal resolution for electron and photon energy measurements, as well as accurately assessing the electromagnetic component of jets and quantify missing transverse energy, necessitates precise calibration of the detector and its individual channels. To maintain stable energy response over time, a laser monitoring system is utilized to detect radiation-induced alterations in the detector, compensating for them at the reconstruction stage. Moreover, each channel undergoes in-situ calibration using physics events (W and Z electrons, photons from low mass resonance decays). This contribution will describe the methodologies employed for ECAL energy and new time calibration algorithms used by CMS; in addition the new automated system designed to streamline calibration workflows during data taking will be introduced. Finally we'll present the ECAL performance during LHC Run3.

Is this an abstract from experimental collaboration?

Yes

Name of experiment and experimental site

CMS, LHC - CERN

Is the speaker for that presentation defined?

No

Details

N/A

Internet talk

No

Primary authors: OBERTINO, Maria Margherita (Universita e INFN Torino (IT)); GRAS, Philippe (Université Paris-Saclay (FR))

Presenter: OBERTINO, Maria Margherita (Universita e INFN Torino (IT))

Session Classification: High Energy Particle Physics