



ID de Contribution: 42

Type: **Poster**

Correction of electromagnetic showers shape in Monte-Carlo modelling of ATLAS calorimeter

mardi 29 mai 2018 16:15 (1 heure)

The electromagnetic calorimeter is one of the key elements of the ATLAS detector at the Large Hadron Collider at CERN. In combination with the inner tracker the calorimeter allows to measure the energy and the momentum of electrons and photons coming out of the interaction point of the detector.

In order to properly reconstruct the physical processes happening after the collision it is crucial to identify the origin of the measured particles and, in particular, to separate the signal electrons, coming from prompt decays, from the background.

Electrons identification is performed by means of multi-variant analysis algorithm, which in turn strongly relies on a number of electromagnetic shower shape characteristics.

It appears that due to material mismodelling of the detector, the Monte-Carlo model provides inaccurate energy distribution in the calorimeter cluster cells.

Correcting the shower shape would allow to improve the electron identification as well as energy measurement accuracy.

Auteur principal: KHANDOGA, Mykola (CEA Saclay)

Orateur: KHANDOGA, Mykola (CEA Saclay)

Classification de Session: Poster and coffee