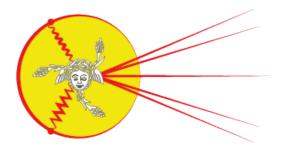
Diffraction 2016



Contribution ID: 166 Type: not specified

Hadronic Interaction Model Calibration with LHCf data at LHC

Tuesday, 6 September 2016 10:30 (30 minutes)

The LHCf experiment is aimed to provide precise measurements of the spectra of neutral particles produced in the very forward region at LHC. These measurements provide a calibration tool to tune the hadronic interaction models used by groundbased cosmic rays experiments up to the highest energy currently available at accelerator facilities and are hence of fundamental importance to interpret the EAS results in terms of primary cosmic ray properties.

In order to achieve this goal, LHCf makes use of two small sampling calorimeters installed at $\pm 140m$ from LHC IP1, so that it can detect neutral particles produced by p-p collisions having pseudo-rapidity $\eta > 8.4$.

LHCf has taken data in p-p collisions at different energies (\sqrt{s} = 0.9 TeV, 2.76 TeV, 7 TeV and 13 TeV) and in p-Pb collisions (\sqrt{s} NN = 5.02 TeV). In this talk, a summary of the main results achieved by the Collaboration will be given showing the comparison with Monte Carlo model predictions with particular emphasis to the $\pi 0$ spectra which offer the possibility to study pT and pz spectra, to test Feynman scaling hypothesis and to estimate the nuclear modification factor.

Primary author: TRICOMI, Alessia Rita (CT)

Presenter: TRICOMI, Alessia Rita (CT)

Session Classification: Diffraction in hadron-hadron collisions - experiment (II)

Track Classification: Diffraction in hadron-hadron collisions (experiment)