Contribution ID: **30** Type: **Invited**

Measurement of the charge ratio of atmospheric muons with the CMS detector

Friday, 2 July 2010 11:45 (15 minutes)

A measurement is presented of the ratio of positive to negative muon fluxes from cosmic-ray interactions in the atmosphere, using data collected by the CMS detector at ground level and in the underground experimental cavern. Muons were detected in the momentum range from 3 GeV/c to 1 TeV/c. For muon momenta below 100 GeV/c the flux ratio is measured to be a constant 1.2766 ± 0.0032 (stat) ± 0.0032 (syst), the most precise measurement to date. At higher momenta an increase in the charge asymmetry is observed, in agreement with models of muon production in cosmic-ray showers and compatible with previous measurements by deep-underground experiments.

Primary author: Dr HESKETH, Gavin (CERN)

Presenter: Dr HESKETH, Gavin (CERN)

Session Classification: Muons

Track Classification: Muons