RPC2012 - XI Workshop on Resistive Plate Chambers and Related Detectors



Contribution ID: 18

Type: oral presentation

Performance of the ALICE RPC-based muon trigger system in the first two years of data taking at the LHC

Thursday, 9 February 2012 09:30 (20 minutes)

The ALICE muon spectrometer is equipped with a trigger system made of four RPC planes, arranged in two stations. The aim of the system is to deliver single and di-muon triggers with suitable transverse momentum cut, optimised for the physics of quarkonia and open heavy flavour.

In the first two years of LHC operation, the RPCs (72 in total) were operated in highly saturated avalanche mode for data-taking in both pp and Pb–Pb collisions. The integrated number of hits is about 10 Mhit/cm2 on average and 30 Mhit/cm2 for the most exposed detectors.

The performances of the RPCs and of the system as a whole are discussed, with particular regard to their stability in time.

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Session Classification: Triggering at high rates

Track Classification: Triggering at high rates