

X. Workshop on Resistive Plate Chambers and Related Detectors

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The CMS RPC project, results from 2009 cosmic data taking

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The Resistive Plate Chambers are used in the CMS experiment as a dedicated muon trigger both in barrel and endcap system. About 4000 square meter of double gap RPCs have been produced and have been installed in the experiment since 2007. The full barrel system and a fraction of the endcaps have been extensively commissioned with millions of cosmic rays collected by the full CMS experiment. Making use of the redundant muon system composed by Drift Tube in the barrel and CSC in the endcaps that provide independent tracking and trigger informations, the performances of the RPCs have been studied in terms of efficiency, cluster size multiplicity, spatial resolution and trigger response. Moreover during the long period of detector operations the stability of the system has been monitored to study the dark currents and noise behavior as a function of time. First results obtained using the cosmic rays data taken during 2009 will be reported here.

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