Contribution ID: **705** Type: **Parallel Sessions**

Operations and Performance of the CMS DT and RPC muon systems

Friday 6 July 2012 11:00 (15 minutes)

The Drift Tubes (DT) detector in the CMS experiment triggered and recorded high quality data during the LHC run in 2011, observing muons from pp collisions at a center of mass energy of 7 TeV. More than 99% of the detector channels participated in data taking with very good performances in terms of up-time and efficiency. Prompt data were monitored in order to evaluate noise and backgrounds and to determine calibrations. The DT system showed excellent performance: at the trigger level, with excellent bunch crossing identification capability, despite long drift times intrinsic to the detector technology; and at the reconstruction level, reaching very good spatial and temporal resolution. Weak points of the current detector and electronics were also identified, and actions to mitigate their possible impact were taken during the run where possible. Future developments were planned in view of upgrade campaigns during the accelerator shutdowns. The first results of the 2012 run at 8 TeV center of mass energy will also be presented. The Resistive Plate Chambers are used in CMS as dedicated muon trigger in both barrel and endcap region. They also contribute to the identification of the muons together with Drift tube in the barrel and Cathod Strip Chambers in the endcaps. We will report the operations and performance of the system after two years of LHC activities with increasing instantaneous luminosity. Special attention will be given to the stability of the system and to the working point calibration procedures.

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Session Classification: Room 218 - Detectors and Computing for HEP - TR13

Track Classification: Track 13. Detectors and Computing for HEP