

Drift velocity and pressure monitoring of the CMS muon drift chambers

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The drift velocity in drift tubes of the CMS muon chambers is a key parameter for the muon track reconstruction and trigger. It needs to be monitored precisely in order to detect any deviation from its nominal value. A change in absolute pressure, a variation of the gas admixture or a contamination of the chamber gas by air affect the drift velocity. Furthermore, the temperature and magnetic field influence its value. First data, taken with a dedicated Velocity Drift Chamber (VDC) built by RWTH Aachen IIIA are presented. Another important parameter to be monitored is the pressure inside the muon drift tube chambers. The differential pressure must not exceed a certain value and the absolute pressure has to be kept slightly above ambient pressure to prevent air from entering into the muon drift tube chambers in case of a leak. Latest drift velocity monitoring results are discussed.

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