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Gas Gain Monitoring System for the CMS RPC detector: operation performance.

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Performance and new developments of the Gas Gain Monitoring (GGM) system, installed in 2009 at CMS Experient, are presented. The GGM is aiming to keep under control the gas quality of the CMS RPC closed loop gas system. To perform this task the GGM is made of single-gap RPCs arranged in a cosmic ray telescope, with charge readout for online monitoring of working point; this provides a fast and accurate determination of any shift of the working point conditions. The GGM is integrated in the main Detector Control System (DCS) while the DAQ runs withing the CMS XDAQ framework. The GGM showed very good sensitivity to gas changes. Will be presented also results on new algorithms for online compensation of the effect of environmental variables changes as well as on fine-grained gas mixture scan studies.

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