



Contribution ID: 40

Type: **not specified**

## Gain Uniformity tests on full scale triple GEM detectors for CMS high Eta upgrade

*Monday 1 July 2013 16:45 (1h 10m)*

The CMS GEM collaboration has proposed an upgrade of the CMS forward muon system with triple-GEM detectors. An extensive R & D program has demonstrated that these detectors have the rate capability and radiation resistance needed to operate in the environment of the high-luminosity LHC. Moreover, their excellent position resolution will enhance the performance of muon triggering and reconstruction. These GEM detectors are the largest ones ever built. They have a trapezoidal shape, 1 m long, with parallel sides of 20 and 40 cm. It is important to insure uniform performance over the chamber area for all 144 chambers in the system. In this talk we describe a procedure for certifying the gain uniformity over the sensitive area of the detectors. An x-ray gun is used to illuminate different spots on the chamber, while the relative performance is measured in real time. We use the Scalable Readout System (SRS) which was developed by the RD51 collaboration. We describe the steps required for performance certification and we report measurements from the first full-size prototypes.

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**Session Classification:** Monday (poster session )