

Calibration and quality control of the CMS triple-GEM detectors

Friday, 21 December 2018 14:45 (15 minutes)

The CMS Collaboration is preparing to install triple-GEM detectors for muon measurements. In this talk, I will give an overview of the operation of triple-GEM detectors, an overview of the data acquisition system that the CMS Collaboration has developed for the triple-GEM detectors, and an overview of the sequence of quality control tests that are performed. I will then report in detail on the status of the latest version of the front-end ASIC, called VFAT3, and the various calibration scans that we are performing on it. The VFAT3 was designed with a large number of programmable registers, which control such things as the voltage threshold for a sending a hit signal. The purpose of the calibration scans is both to program these registers, and also to evaluate the noise on active channels and the rate of channel loss. Finally, I will discuss in detail the hardware and software that is in place for the last stage of the quality control sequence: cosmic ray data taking with full equipped and live detectors.

Type

Parallel talk

Sessions (parallel only)

Detector performance and upgrade

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