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Performance monitoring of the GE1/1 Triple-GEM detectors for the CMS Muon System

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The muon system of the CMS experiment has been instrumented with two wheels of triple-GEM detectors in order to ensure redundancy in the pseudo-rapidity region 1.55-2.2 so keeping the trigger rate at an acceptable level while not compromising the CMS physics potential in Run 3 of the LHC. The station, named GE1/1, provides two additional muon hit measurements which will improve the muon tracking and triggering performance in combination with the existing CSC detectors. As the commissioning phase of the detector is ongoing, prompt assessment of the muon detection performance is crucial for adjusting the operating parameters of the detector and its electronics. This contribution will present a set of analysis tools developed for the detector performance monitoring based on tools common to all the CMS muon subdetectors. Validation of the analysis based on simulations will be discussed, together with preliminary results obtained from cosmic-ray events.

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