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**Performance of “Momentum Imbalance” Measurement using the CMS detector at the Large Hadron Collider** ROY MONTALVO, ALFREDO GURROLA, TERUKI KAMON, ANGELA MAROTTA, Texas A&M University — With the successful operation of the Large Hadron Collider (LHC) in November and December 2009, the Compact Solenoid Muon (CMS) detector recorded a significant amounts of proton-proton collision data at a center-of-mass energy of 0.9 TeV and 2.36 TeV. The data allow us to understand the detector and prepare a search for dark matter using 7 TeV collisions expected early this year. The creation of dark matter is inferred by measurement of momentum imbalance in each event. The Texas A&M CMS group has been working on the measurement which is very sensitive to the performance of all sub-detector systems in CMS. Thus it is crucial to monitor the data quality. We report the performance of a monitoring program that we have designed and tested with this data.

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