

Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Simulation of Gas Electron Multiplier Detector for the CMS Experiment at the Large Hadron Collider¹ ALI CELIK, Texas A&M University, CMS COLLABORATION — The Compact Muon Solenoid (CMS) Collaboration is proposing an upgrade of the muon detector system by installing Gas Electron Multiplier (GEM), a new type of gaseous detector, in the forward region ($1.54 < |\eta| < 2.2$). It will consist of two layers of GEM chambers, which will be operating after the 2nd Long Shutdown of the Large Hadron Collider (LHC). The GEM system is expected to have better performance in tracking efficiency, time resolution, and position resolution for detecting muons even in large multiple interaction environment. This is also expected to maintain trigger rate for muons in the forward region in a LHC high luminosity operation. We report results of extensive development of its simulation package that is used for physics performance studies.

¹For the CMS GEM Collaboration

Ali Celik
Texas A&M University

Date submitted: 26 Sep 2014

Electronic form version 1.4