

Abstract Submitted  
for the APR09 Meeting of  
The American Physical Society

**CMS Detector Sensitivity for the Discovery of Supersimmetry with Two Same-sign Muons, Jets and MET** YURIY PAKHOTIN, University of Florida, CMS COLLABORATION — Expecting launch of the Large Hadron Collider (LHC) in 2009 the preparations are underway to search for signatures of Supersymmetry (SUSY) or other possible extensions of Standard Model (SM) in the inclusive topology with 2 same-sign muons in final state, using the Compact Muon Solenoid (CMS) experiment. This talk reports on the discovery potential of the CMS with first collected collision data. The CMS performance based on the most recent full detector simulation with start-up 5 TeV proton beams energy of LHC. Strategy to reduce SM background, both from the online CMS High-Level trigger and from offline data analysis is presented. Data driven methods to estimate SM background are reviewed.

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Date submitted: 08 Jan 2009

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