

Abstract Submitted  
for the APR13 Meeting of  
The American Physical Society

**Triggering and signal optimization in a search for SUSY with bottom-quark jets in pp collisions at 8 TeV with CMS** HAROLD NGUYEN, BILL GARY, PAWANDEEP JANDIR, OWEN LONG, UC Riverside, TOM DANIELSON, KRISTEN FLOWERS, JEFFREY RICHMAN, UC Santa Barbara, WILLIAM FORD, ALE GAZ, TROY MULHOLLAND, JAMES SMITH, KEITH ULMER, University of Colorado at Boulder, BEN KREIS, ANDERS RYD, DON TEO, JULIA THOM, JOSH THOMPSON, LUKE WINSTROM, PETER WITTICH, Cornell University, CMS COLLABORATION — A search is presented for physics beyond the standard model based on events with significant missing transverse energy (MET), at least three jets, and at least one identified bottom-quark jet. The bottom-quark-jets plus MET signature arises in models of so-called natural supersymmetry and is expected to be one of the most accessible SUSY final states at the CERN Large Hadron Collider (LHC). The study is based on a sample of 19 fb<sup>-1</sup> collected at 8 TeV with the CMS detector at the LHC in 2012. Particular emphasis is given to the trigger, event selection, and optimization of the analysis selection criteria. The background-determination methods and limits on new physics signatures are described.

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Date submitted: 10 Jan 2013

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