

Abstract Submitted  
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**Z to Invisible Background Measurement for the Top Squark Search in All Hadronic Final States** ANGEL ROSADO TRINIDAD, University of Puerto Rico at Mayaguez, CMS COLLABORATION<sup>1</sup> — A search for hadronically decaying top squarks is presented using three years of proton-proton collisions at center-of-mass energy of 13 TeV recorded by the CMS experiment, corresponding to an integrated luminosity of 137 inv. fb. The light top squark is expected with mass around 1~2 TeV in natural supersymmetric models, therefore accessible at the LHC. This search looks for a final state with hadronically decaying top quarks, and large imbalance in transverse momentum. While there are several backgrounds present, one of the largest and irreducible backgrounds comes from Z bosons decaying to two neutrinos, with a significant branching ratio of 0.2. Two methods for estimating the Z invisible background will be discussed.

<sup>1</sup>CMS stands for Compact Muon Solenoid

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