

Abstract Submitted  
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**Search for supersymmetry in events with photon, jets, b jets and missing transverse energy** VINAY HEGDE, Texas Tech University, CMS COLLABORATION COLLABORATION — The standard model (SM) of particle physics successfully explains many of the phenomena around us. But it cannot explain gravity, existence of dark matter, matter anti-matter asymmetry, Higgs mass being much lower than the Planck scale etc. Supersymmetry is an extension of the SM, which may provide solutions to some of the issues with the SM. A search for supersymmetry is presented based on events with at least one photon, light flavor jets or b jets, and large missing transverse momentum produced in proton-proton collisions at a center-of-mass energy of 13 TeV. The data correspond to an integrated luminosity of  $35.9 fb^{-1}$  and were recorded at the LHC with the CMS detector in 2016. Since no significant excess of events is observed with respect to the expectations from standard model processes, limits are placed on the pair production cross-sections of gluinos and top squarks. Depending on the model and the mass of the next-to-lightest supersymmetric particle, the production of gluinos with masses as large as 2120 GeV and the production of top squarks with masses as large as 1230 GeV are excluded at 95% confidence level.

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