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Search for supersymmetry using boosted Higgs bosons and missing transverse momentum in proton-proton collisions at 13 TeV

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CMS results at 8 and 13 TeV have placed bounds on gluino, squark, and electroweakino production in supersymmetric extensions to the Standard Model. The current sensitivity in some regions of phase space motivates more targeted searches. Depending on the mass spectra of the new particles, these models predict boosted objects, such as high p_T vector bosons, in association with missing energy from particles escaping detection. A new analysis strategy using jet substructure techniques is applied in hopes of enhancing sensitivity to models where a boosted object can be contained in a single large jet. We will describe an analysis looking for evidence of supersymmetry in events with missing energy and boosted Higgs bosons (decaying to b-quarks) in the final state. We will compare our sensitivity to other analyses and describe the current limits on these production scenarios.

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