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## Search for charged Higgs bosons in the H-+/- -> tau(+/-)nu(tau) decay channel in proton-proton collisions at s=13 TeV

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### Abstract

A search is presented for charged Higgs bosons in the H-+/- -> tau(+/-)nu(tau) decay mode in the hadronic final state and in final states with an electron or a muon. The search is based on proton-proton collision data recorded by the CMS experiment in 2016 at a center-of-mass energy of 13 TeV, corresponding to an integrated luminosity of 35.9 fb<sup>-1</sup>. The results agree with the background expectation from the standard model. Upper limits at 95% confidence level are set on the production cross section times branching fraction to tau(+/-)nu(tau) for an H-+/- in the mass range of 80 GeV to 3 TeV, including the region near the top quark mass. The observed limit ranges from 6 pb at 80 GeV to 5 fb at 3 TeV. The limits are interpreted in the context of the minimal supersymmetric standard model m(h)(mod-) scenario.

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