

Searches for charged Higgs bosons at CMS

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An overview of the latest results on 13 TeV searches for a charged Higgs boson (H^+) with the CMS experiment is presented. Different H^+ production mechanisms and several final states are covered, focusing mostly on the $H^+ \rightarrow \tau \nu$ and $H^+ \rightarrow tb$ channels, which are especially interesting in the framework of Type-II two-Higgs-doublet-models including the MSSM. The first CMS results in the H^+ mass range close to the top quark mass, as well as the first CMS search targeting the fully hadronic final state of the $H^+ \rightarrow tb$ channel, are covered. For each channel, the main experimental challenges and the analysis strategies chosen to overcome them are described. Model-independent limits on the H^+ production rate, as obtained from these searches, are presented and interpreted in the context of the MSSM. To conclude, future prospects for the H^+ searches with CMS are shortly discussed.

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