

Charged Higgs in CP-conserving 2HDM

The LHC has started colliding protons. Several extensions of the Standard Model predict a charged scalar particle which according to the LEP bound could be as light as 100 GeV. In this work we compare the four flavour conserving Yukawa versions of a CP-conserving two-Higgs doublet model (2HDM) regarding charged Higgs production and decay. We define a set of benchmarks where an early detection is possible at the 14 TeV LHC. Furthermore, we determine the luminosity required to distinguish between the four Yukawa versions of the CP-conserving 2HDM for a chosen set of benchmarks.

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