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## **Enhanced Charged Higgs Signal at the LHC**

A general two Higgs doublet model (G2HDM) is adopted to study  $pp \rightarrow bH^{\pm} \rightarrow bbc + X$  at the Large Hadron Collider (LHC), where  $H^{\pm}$  is a charged Higgs boson, *b* represents a bottom quark or an anti-bottom quark, and c is a charm quark or an anti-charm quark. In two Higgs doublet models with Type-II Yukawa interactions,  $g_{H^+bc}$  is suppressed by  $V_{cb} \simeq 0.042$ . This coupling can become significantly large with the dominant contribution  $g_{H^+bc} \propto \rho_{tc} V_{tc} \simeq \rho_{tc}$  in a G2HDM. We have evaluated cross sections for the charged Higgs signal and for the dominant processes of physics background. Realistic acceptance cuts are applied to investigate the discovery potential. In addition, we have applied b tagging and c tagging at the event level with ATLAS and CMS tagging and mis-tagging efficiencies. Promising results have been obtained for  $\rho_{tc} > 0.3$  with an integrated luminosity  $L = 1000 \text{ fb}^{-1}$  for ATLAS or CMS at the LHC.

## Secondary track

T09 - Beyond the Standard Model

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