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The Charged Higgs from the Bottom-Up: Probing Flavor at the LHC

Thursday 29 September 2022 18:00 (15 minutes)

We systematically study model-independent constraints on the three generic charged Higgs couplings to b -quarks and up-type quarks. While existing LHC searches have focussed on the tb coupling, we emphasize that the LHC plays a crucial role in probing also ub and cb couplings, since constraints from flavor physics are weak. In particular we propose various new searches that can significantly extend the present reach on the parameter space by: i) looking for light charged Higgses that decay into ub -quarks, ii) probing charged Higgs couplings to light and top quarks using multi- b -jet signatures, iii) looking for single b -quarks in low-mass dijet searches, iv) searching for charge asymmetries induced by charged Higgs production via ub couplings.

Summary

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