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The forgotten charged Higgs decay mode at the LHC.

In this talk, I will carry out a new (standard) decay mode of charged Higgs decays in the 2-Higgs Doublet Model (2HDM) type-3 and type-1 at the Large Hadron Collider (LHC). Starting from the most recent experimental results (SM-like Higgs boson signal strengths and search limits for new Higgs boson states obtained at Run-1 and -2 of the LHC and previous colliders), from (both direct and indirect) searches for Supersymmetric particles as well as from flavor observable and upon enforcing theoretical constraints (vacuum stability, perturbativity, unitarity). I will present and discuss standard inverted hierarchy situation where light CP-even Higgs fixed at 96GeV, together with light charged Higgs below than top mass can be realized only in type-3. New signatures and benchmarks are suggested.

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