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Charged Higgs bosons in single top production at the LHC

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We show that a light charged Higgs boson signal via tau nu decay can be established at the Large Hadron Collider also in the single top mode. This process complements searches for the same signal in the case of charged Higgs bosons emerging from $t\bar{t}$ production. The models accessible include the Minimal Supersymmetric Standard Model (MSSM) as well a variety of 2-Higgs Doublet Models (2HDMs). High energies and luminosities are however required, thereby restricting interest on this mode to the case of the LHC running at 14 TeV with design configuration.

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