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Search for top-quark decays tHq in ditau final state with 36 fb^{{-1}} of pp collision data at s =13 TeV with the ATLAS detector

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A search for flavor-changing neutral current decays of a top quark into an up-type quark (q=u,c) and the Standard Model Higgs boson, t \rightarrow Hq, is presented. The search is based on a dataset of pp collisions at s $\sqrt{=13}$ TeV recorded in 2015 and 2016 with the ATLAS detector at the CERN Large Hadron Collider and corresponds to an integrated luminosity of 36.1 fb–1. Two complementary analyses are performed that search for top-quark pair events in which one top quark decays into Wb and the other top quark decays into Hq, and target the H \rightarrow bb⁻ and H \rightarrow τ+τ- decay modes, respectively. The combination of these searches with ATLAS searches in diphoton and multilepton final states yields observed (expected) 95% CL upper limits on the t \rightarrow Hc and t \rightarrow Hu branching ratios of 1.1X10–3 (8.3X10–4) and 1.2X10–3 (8.3X10–4), respectively. The corresponding combined observed (expected) upper limits on the | λ tcH| and | λ tuH| couplings are 0.064 (0.055) and 0.066 (0.055), respectively

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