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4th generation searches at ATLAS

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The top-quark is the heaviest known fundamental particle with unique properties within the Standard Model. Its large couplings to the Higgs boson, and being the only quark that decays before hadronisation make it sensitive to new physics beyond the SM. A potential extension for the SM would be the adjunction a 4th family of heavy chiral fermions that could provide new sources of CP violation to explain the matter-antimatter asymmetry in the Universe, and allow for a heavier Higgs boson while remaining consistent with other precision electroweak studies. We report on searches for 4th generation quarks using the data sample recorded in 2011 at $\sqrt{s}=7$ TeV centre-of-mass energy by the ATLAS experiment at the LHC.

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