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Search for the Standard Model Higgs boson produced in association with top quarks and decaying into a bbbar-pair in pp collisions at sqrt(s)=8 TeV with the ATLAS detector

A search for the Standard Model Higgs boson produced in association with a pair of top quarks (ttH) and decaying into a pair of bottom quarks (H→bb) is presented. The search is focused on the semileptonic decay of the tt system and exploits different topologies given by the jet and b-tagged jet multiplicities of the event. A neural network is used to discriminate between signal and background events, the latter being dominated by tt+jets production. Using 20.3/fb of data at sqrt(s)=8 TeV collected with the ATLAS detector during Run 1 of the Large Hadron Collider, we obtain an observed (expected) 95% confidence-level upper limit of 3.4 (2.2) times the Standard Model cross section for a Higgs boson with a mass of 125 GeV.

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