

Search for heavy top-like fourth generation quarks in the dilepton channel with a collinear approximation at ATLAS

We present a search for pair production of heavy quarks Q_4 decaying via $Q_4 \rightarrow qW \rightarrow q l \nu$. We perform approximate mass reconstruction by assuming that the boosted W decays to a charged lepton and neutrino which are nearly collinear. We use 37 inverse picobarns of integrated luminosity from pp collisions at $\sqrt{s} = 7$ TeV collected by the ATLAS detector. The data are in agreement with standard model expectations; we exclude at 95% confidence level a heavy quark with mass less than 270 GeV.

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