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Type: **Experiment**

Search for an excited quark decaying to a top quark plus gluon.

We perform a search for a pair-produced excited top quark, t^* , that decays exclusively to a top quark and a gluon using data collected by the CMS detector from pp collisions at $\sqrt{s} = 8$ TeV. The search is performed using events consistent with the semi-leptonic decay of the t^*t^* system, that is events having a single isolated muon or electron, missing energy, and at least six well-reconstructed jets, one of which must be identified as originating from the fragmentation of a b quark. The data analyzed corresponds to an integrated luminosity of 19.6 fb^{-1} in both muon and electron channel. No significant excess over expectations is observed and we set a lower limit on a t^* -quark mass at 95% confidence level.

Primary author: WANG, Ta-Wei (National Taiwan University (TW))

Presenter: WANG, Ta-Wei (National Taiwan University (TW))

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