



Contribution ID: 372

Type: **Parallel Session talk**

Search for strong production of vector-like quarks coupling to third generation quarks at CMS (13TeV)

Tuesday, August 6, 2019 3:00 PM (12 minutes)

Summary

We present results of searches for strong production of pairs of vector-like quarks using proton-proton collision data collected with the CMS detector at the CERN LHC at a center-of-mass energy of 13 TeV. Vector-like quarks are postulated as a mechanism to solve the Hierarchy problem of the standard model and stabilize the Higgs mass. We search here for vector-like quarks that would decay to a standard model boson and a third generation quark. Several analyses target different decay modes and are optimized for various final state event contents, from multi-leptonic to fully hadronic. In the latter, substructure techniques are used to identify hadronically decaying top quarks and bosons, to resolve these boosted final states and increase the sensitivity of the searches.

Primary authors: MEYER, Arnd (Rheinisch Westfaelische Tech. Hoch. (DE)); KHALIL, Sadia (The University of Kansas (US))

Presenter: KHALIL, Sadia (The University of Kansas (US))

Session Classification: Collider SM & BSM (Parallel)