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Searches for vector-like quarks and leptons at CMS

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We present results of searches for massive vector-like third-generation quark and lepton partners using proton-proton collision data collected with the CMS detector at the CERN LHC at a center-of-mass energy of 13 TeV. Pair production of vector-like leptons is studied, with decays into final states, containing third generation quarks and leptons. Vector-like quarks are studied in both single and pair production, considering final states, containing top and bottom quarks, electroweak gauge and Higgs bosons. We search using several categories of reconstructed objects, from multi-leptonic to fully hadronic final states. We set exclusion limits on both the vector-like particle mass and cross sections, for combinations of the vector-like particle branching ratios.

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