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## Search for new resonances coupling to third generation quarks at CMS, and Dark Matter

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We present a search for new massive particles (such as Z prime and W prime resonances) decaying to heavy-flavour quarks with the CMS detector at the LHC, and dark matter signatures involving boosted jets. Resonant  $t\bar{t}$ ,  $t\bar{b}$ , and heavy quark plus vector-like quark production, along with missing  $p_T$  plus boosted objects, are investigated. We use proton-proton collision data recorded at a centre-of-mass energy of 13 TeV. The search is performed in both hadronic and semileptonic decay channels of the top quark or of the top-partners. Due to the high momentum range in which these objects are produced, specific reconstruction algorithm and selections are employed to address the identification of these boosted signatures. The results are presented in terms of upper limits on the model cross section.

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