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Search for paired dijet resonances in the boosted and non-boosted regime with the CMS detector at 13 TeV

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We present a search for paired dijet resonances using data from proton-proton collisions at a center-of-mass energy of 13 TeV, recorded in 2016 by the CMS detector at the LHC. We exploit jet substructure techniques to reach low mass boosted paired dijet resonances, while for higher resonance masses we search for four jets in the final state. We consider the pair production of top squarks (stops) as the benchmark model, where each stop decays through the hadronic R-parity violating (RPV) coupling; in the case of the UDD312 coupling the stops decay into two light quarks and, for the UDD323 coupling the stops decay into a light quark and a b-quark.

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