

CMS searches for dark matter in events with highly-boosted resonances, using substructure and b-tagging techniques

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Searches for dark matter are conducted in events with highly boosted, hadronically decaying heavy resonances. The searches isolate final states containing large missing transverse energy or containing a beyond-Standard Model resonance. These studies are performed using proton-proton collisions at a center-of-mass energy of 13 TeV, in data recorded by the CMS detector in 2016 at the LHC, corresponding to an integrated luminosity of 36/fb. New substructure and b-tagging techniques are utilized to identify the decay products of top quarks, Higgs bosons, or BSM resonances. With no significant excesses observed, results are interpreted as limits on various models.

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