

Abstract Submitted
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Search for Long-Lived Particles Decaying to Jets with Displaced Vertices SHAUN HOGAN, Cornell University, CMS COLLABORATION — Particles with macroscopically-long lifetimes are a common feature in models of physics beyond the standard model. We present the results of a search for pair-produced long-lived particles using data from proton-proton collisions collected by the CMS experiment at a center-of-mass energy of $\sqrt{s} = 13$ TeV. The data sample corresponds to an integrated luminosity of 140 fb^{-1} , acquired from 2015 to 2018. Long-lived particles with mean proper decay lengths between 0.1 and 100 mm that decay into at least two quarks are targeted. The search signature is a pair of displaced vertices which are required to be inside the beam pipe, each formed of multiple tracks. No events with two displaced high-track-multiplicity vertices are observed. Results are interpreted in the context of two R-parity violating supersymmetry models which predict long-lived neutralinos and gluinos, and exclusion limits from the analysis are presented.

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