

Abstract Submitted
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Search for long-lived particles with multijet displaced vertices in proton-proton collisions at $\sqrt{s}=13$ TeV JENNIFER CHU, Cornell University, CMS COLLABORATION — Results are reported from a search for long-lived exotic particles in proton-proton collision events collected by the CMS experiment at a center-of-mass energy of $\sqrt{s} = 13$ TeV. The data sample, which was collected during 2015 and 2016, corresponds to an integrated luminosity of 38.5 fb^{-1} . This search uses benchmark signal models in which long-lived neutralinos or gluinos are pair-produced and each decay into two or more quarks, leading to a signal with multiple jets and two displaced vertices composed of many tracks. No events with two well-separated high-track-multiplicity vertices are observed, and limits are placed on the pair production cross section as a function of mass and lifetime of the long-lived particle. At 95% confidence level, the analysis excludes cross sections above approximately 0.3 fb for neutralinos or gluinos with mass between 800 and 2600 GeV and mean proper decay length between 1 and 40 mm. Gluino masses are excluded below 2200 GeV for mean proper decay lengths between 0.8 and 80 mm.

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