

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Search for R-parity violating supersymmetry with displaced vertices in proton-proton collisions at $\sqrt{s}=8$ TeV JENNIFER CHU, Cornell University, CMS COLLABORATION — Results are reported from a search for *R*-parity violating supersymmetry in proton-proton collision events collected by the CMS experiment at a center-of-mass energy of $\sqrt{s} = 8$ TeV. The data sample corresponds to an integrated luminosity of 17.6 fb^{-1} . This search assumes a minimal flavor violating model where the lightest supersymmetric particle is a long-lived neutralino or gluino, leading to a signal with jets emanating from displaced vertices. In a sample of events with two displaced vertices, no excess yield above the expectation from standard model processes is observed, and limits are placed on the pair production cross section as a function of mass and lifetime of the neutralino or gluino. For a mass of 400 GeV and mean proper decay length of 10 mm, the analysis excludes cross sections above 0.6 fb at 95% confidence level. The results are also applicable to other models in which long-lived particles decay into multijet final states.

Jennifer Chu
Cornell University

Date submitted: 27 Sep 2016

Electronic form version 1.4