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Study of hard color-singlet exchange in dijet events in proton-proton collisions at $\sqrt{s} = 13$ TeV CHRISTOPHE ROYON, Univ of Kansas, CMS COLLABORATION — A study of events where the two leading jets are separated by a large pseudorapidity interval void of particle activity, known as jet-gap-jet events, is presented. The jets have transverse momentum $p_T > 40$ GeV and pseudorapidity $1.4 < |_{jet}| < 4.7$, and opposite-signed pseudorapidities $_{jet1}{}_{jet2} < 0$. The analysis is based on an inclusive dijet data sample collected by the CMS experiment in pp collisions during the low-luminosity run in 2015 at $\sqrt{s} = 13$ TeV with an integrated luminosity of 0.66 pb^{-1} . The fraction of jet-gap-jet events is presented as a function of the pseudorapidity difference between the leading two jets, the transverse momentum of the subleading jet, and the azimuthal angle separation between the leading two jets. The results are compared to perturbative quantum chromodynamics predictions based on the Balitsky-Fadin-Kuraev-Lipatov framework. The study also presents the first experimental observation of jet-gap-jet events with a leading proton.

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