

Search for contact interactions in dilepton production from pp collisions with $\sqrt{s} = 8$ TeV using the CMS detector

Thursday, 15 August 2013 10:30 (20 minutes)

We report a search for contact interactions due to quark and lepton substructure manifest in production of $\mu^+\mu^-$ and e^+e^- pairs. The search is performed using the full data set recorded by CMS at $\sqrt{s} = 8$ TeV corresponding to integrated luminosity of 20.6 fb⁻¹ for dimuons and 19.6 fb⁻¹ for dielectrons. The dilepton yields for invariant masses above 300 GeV are found to be consistent with standard model Drell-Yan production. The yields are compared to those predicted by the left-left isoscalar model of contact interactions for the cases of destructive and constructive interference with standard model Drell-Yan production. Lower limits are set on the contact interaction energy scale parameter for the $\mu^+\mu^-$ and e^+e^- channels separately, and for the channels combined.

APS member ID

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Session Classification: Physics Beyond the Standard Model

Track Classification: Physics Beyond the Standard Model