

Abstract Submitted
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Search for Contact Interactions in Dilepton Final State in the CMS Experiment: Generator-Level Studies SHAWN ZALESKI, Wayne State Univ — A set of contact interaction (CI) Monte Carlo events, for which Standard Model Drell-Yan events are background, are generated using a leading-order parton-shower generator, Pythia8. We consider three isoscalar models with three different helicity structures, left-left (LL), left-right/right-left (LR), and rightright (RR), each with destructive and constructive interference. . For each of these models, 150,000 events are generated for analysis of CI interactions in the Compact Muon Solenoid (CMS) experiment at the Large Hadron Collider (LHC) with a centre of mass energy of 13 TeV. This study is a generator level study, and detector effects are accounted for by application of kinematic cuts on the generator-level quantities rather than application of a detailed detector simulation package (e.g. GEANT). Distributions of dilepton invariant mass, Collins-Soper angle, and the forward-backward asymmetry are compared with those arising from pure Drell-Yan events.

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