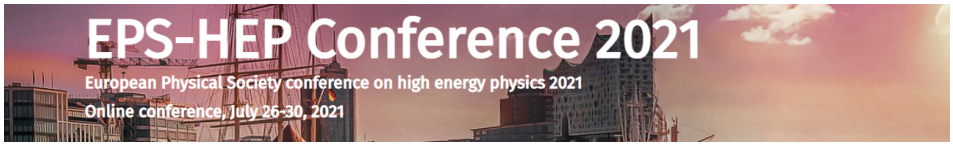

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Search for contact interactions with inclusive jet production at the LHC at 13 TeV with CMS

The inclusive jet production cross sections and triple-differential cross sections of top quark-antiquark pair production at the LHC at a center of mass energy of 13 TeV are used together with data of inclusive deep inelastic scattering to extract the parton distributions of the proton and the strong coupling constant. In an additional analysis of the same data, the standard model cross section is extended with effective couplings for 4-quark contact interactions. In particular, left-handed vector-like or axial-vector like colour-singlet exchanges are considered. These would correspond to beyond-the-standard model scenarios with quark substructure, Z' or extra dimensions. For the first time, the Wilson coefficients of contact interactions are extracted simultaneously with the standard model parameters using the LHC data.

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Collaboration / Activity

CMS

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