

Contribution submission to the conference Heidelberg 2022

QCD and SMEFT analysis of CMS 13 TeV inclusive jet cross section data — •TONI MÄKELÄ and KATERINA LIPKA — DESY, Hamburg, Germany

The parton distributions of the proton, the strong coupling constant and the top quark mass are extracted simultaneously, using the cross sections of inclusive jet production and top quark-antiquark pair production at the LHC at a center of mass energy of 13 TeV. The standard model analysis is performed at NLO and NNLO. In an alternative analysis, the standard model cross section is extended with effective couplings for 4-quark contact interactions at NLO. In particular, left-handed vector-like or axial vector-like colour-singlet exchanges are considered. 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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