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## Higher-order corrections to top-quark pair production in the SMEFT

*Monday 13 May 2024 16:00 (15 minutes)*

We present theoretical results at approximate NNLO in QCD for top-quark pair-production total cross sections and top-quark differential distributions at the LHC in the SMEFT. These approximate results are obtained by adding higher-order soft gluon corrections to the complete NLO calculations. The higher-order corrections are large, and they reduce the scale uncertainties. These improved theoretical predictions can be used to set stronger bounds on top-quark QCD anomalous couplings.

### Mini Symposia (Invited Talks Only)

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**Session Classification:** Physics Beyond the Standard Model

**Track Classification:** Other BSM