

# XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



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## Insights from the CT18 NNLO global QCD analysis

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The final CT18 global analysis released at the end of 2019 is based on the most complete combination of LHC and non-LHC experimental measurements to date. We discuss implications of this expansive data set for the understanding of the unpolarized PDFs and introduce several alternative fits to explore a number of critical features: the PDF pulls of the high-precision ATLAS 7 TeV W/Z data (CT18A); the effects of altering the QCD scale choices for the low- $x$  HERA DIS data (CT18X); and the sum of these changes, including variations of the charm mass (CT18Z). We also examine theoretical predictions based upon CT18 at NNLO and NLO for several standard candle LHC cross sections, parton-parton luminosities, and PDF Mellin moments.

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