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Impact of top-quark pair production measurements on PDFs in the CT18 global QCD analysis

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We discuss the impact of top-quark pair production data on the CT18 PDFs family. In particular, we discuss the individual impacts of differential $t\bar{t}$ cross section measurements at 8 TeV collision energy from CMS and ATLAS which have been analyzed using different statistical frameworks (ePump and PDFSense) to assess their impact on PDFs before the global fit. We discuss tensions between $t\bar{t}$ observables and the different pulls they lead on the gluon in the global fit to determine the CT18 PDFs. The interplay of $t\bar{t}$ measurements with jet production data is also analyzed.

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