

The impact of various NNLO precision calculations of the Drell-Yan production on the proton PDFs in the CTEQ-TEA global analysis

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The Drell-Yan lepton pair productions have been measured to an unprecedented precision level at the LHC. In companion, the theoretical calculations should reach the same level. However, a visible discrepancy among different next-to-next-to-leading order (NNLO) calculations has been discovered by both the CTEQ-TEA group and also by S. Alekhin et al. In this study, we carefully examine the difference among different NNLO codes and also compare with the q_T resummation calculation. We explore the impacts of different calculations on the proton PDFs through the CTEQ-TEA global analysis, based on the latest Drell-Yan data from ATLAS, CMS, and LHCb groups.

Submitted on behalf of a Collaboration?

Yes

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