



Contribution ID: 181

Type: **Parallel Session Talk**

Extraction of unpolarized transverse momentum dependent parton distribution functions (TMDPDF)

Tuesday, April 9, 2019 12:10 PM (17 minutes)

I present the latest extraction of unpolarized quark transverse momentum dependent parton distribution functions (TMDPDFs) and the non-perturbative part of TMD evolution kernel from the global analysis of Drell-Yan and Z -boson production data. The analysis is performed at the next-to-next-to-leading order (NNLO) in perturbative QCD, using the ζ -prescription. The estimation of the error-propagation from the experimental uncertainties to non-perturbative function is made by the replica method. The importance of the inclusion of the precise LHC data and its influence on the determination of non-perturbative functions is discussed.

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Session Classification: WG6: Spin and 3D structure

Track Classification: WG6: Spin and 3D structure