



Contribution ID: 11

Type: not specified

## GKG18 diffractive parton distribution functions and their uncertainties in the xFitter framework

In this talk, we review the current status of global analyses in QCD of diffractive parton distribution functions (diffractive PDFs) and their uncertainties, focusing on very recent diffractive PDFs analysis of  $\{tt\}$  GKG18-DPDFs, which is the first diffractive PDFs extracted from high-precision data from H1/ZEUS combined inclusive diffractive cross sections measurements.  $\{tt\}$  GKG18-DPDFs is also the first global set of diffractive PDFs determined within the  $\{tt\}$  xFitter framework. Heavy quark contributions in  $\{tt\}$  GKG18-DPDFs analysis are considered within the framework of the 'TR' general mass variable flavor number scheme ( $\{tt\}$  GM-VFNS).

We also present and compared the most recent diffractive PDFs sets available, considering the latest improvements, the included data sets and the theoretical details and finally the next steps need to be made in the determination of diffractive PDFs.

Reference: Eur. Phys. J. C 78, no. 4, 309 (2018), arXiv:1802.01363 [hep-ph].

**Author:** Dr KHANPOUR, Hamzeh (University of Science and Technology of Mazandaran & Institute for Research in Fundamental Sciences (IPM), IRAN)

**Co-authors:** GOHARIPOUR, Muhammad; GUZEY, Vadim

**Track Classification:** Diffraction in e-p and e-A collisions