Contribution ID: **371**   Type: **Parallel session talk**

Impact studies of the gluon PDF using exclusive J/ψ photoproduction data in xFitter

Thursday, July 18, 2024 3:53 PM (17 minutes)

We discuss exclusive heavy-vector-meson photoproduction in ultraperipheral collisions at the LHC in a tamed collinear factorisation approach at Next-to-Leading Order (NLO). By employing the Shuvaev transform as a reliable means to relate Generalised Parton Distributions (GPDs) to Parton Distribution Functions (PDFs) at small values of the skewness parameter ξ, we perform a parton analysis within the public PDF fitting tool xFitter to determine the gluon PDF at moderate-to-low values of x using recent measurements from the LHC. We comment on the prospects of this approach to ascertain the nuclear gluon PDF in heavy-ion collisions. Additionally, we emphasise that a combined fit to exclusive heavy-quarkonium production data from multiple collision systems will increase our understanding of the underlying theoretical mechanisms at play in these interactions and, importantly, lead to an improved understanding of the behaviour of the gluon distribution in the proton and nuclei at small x.

Alternate track

I read the instructions above

Yes

Primary author: FLETT, Chris (IJCLab)

Presenter: FLETT, Chris (IJCLab)

Session Classification: Heavy Ions

Track Classification: 07. Heavy Ions