

DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 158

Type: **Parallel talk**

Global fits of PDFs with non-linear corrections

Tuesday, 28 March 2023 11:30 (20 minutes)

Parton distribution functions (PDFs) are most commonly determined by parameterizing them at some input scale Q_0 and then evolved to the desired scale Q through the DGLAP evolution equations. Extensions of the DGLAP equations have been proposed to account not only for the splitting of partons but also including non-linear $1/Q^n$ terms from the recombination of partons which slows down the pace of DGLAP evolution at small x . At sufficiently low Q the non-linear terms will eventually become the dominant ones and one enters the so-called saturation regime. In the work reported here, we have implemented a model for the leading $1/Q$ corrections in the DGLAP evolution code HOPPET and coupled it with xFitter to perform new global PDF fits accounting for the effects of recombination.

Submitted on behalf of a Collaboration?

No

Participate in poster competition?

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Session Classification: WG 1

Track Classification: WG1: Structure Functions and Parton Densities