Deep Inelastic Scattering 2025



Contribution ID: 166 Type: not specified

Experiment Errors in PDF determination

As experimental data is becoming more precise, understanding the impact of the uncertainties in the errors, especially the systematic errors, is increasingly becoming a significant focus of PDF groups. In this talk I will explain how the error on errors can be modelled and how this framework can be applied to both uncorrelated and correlated systematic errors. We will then investigate what this can tells us about the ATLAS W,Z dataset. We will then discuss the process of decorrelation, and examine the impact on the χ^2 using different procedures We will then introduce a different way to consider decorrelation. Lastly we will investigate asymmetric systematic errors and examine the impact on the χ^2 using different approaches.

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Track Classification: Structure Functions and Parton Densities