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PDF Profiling Using the Forward-Backward Asymmetry in Neutral Current Drell-Yan

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Non-perturbative QCD effects from Parton Distribution Functions (PDF) at hadron colliders may be constrained by using high statistics Large Hadron Collider (LHC) data. Drell-Yan (DY) measurements in the Charged Current (CC) case provide one of the primary channels to do this, in the form of the lepton charge asymmetry. We investigate here the impact of measurements in Neutral Current (NC) DY data mapped in the Forward-Backward Asymmetry (A_{FB}) on PDF determinations, by using the open source fit platform xFitter. We find that A_{FB} enables new PDF sensitivity and present results showing this in presence of a thorough uncertainty analysis.

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