

Drell-Yan cross-sections with fiducial cuts - impact of linear power corrections and $\overline{\text{MS}}$ -resummation in PDF determinations

Tuesday 3 May 2022 11:50 (20 minutes)

We present a QCD analysis of Drell-Yan W and Z cross-sections using a wide range of measurements from the RHIC, Tevatron and LHC colliders, together with the Deep Inelastic Scattering data from the HERA-2 collider. The study is performed using the xFitter framework and employs a consistent set of theoretical predictions at NNLO in QCD and NLO in EW couplings. Predictions using modern PDFs are confronted with the data, emphasizing the description and PDF impact of new measurements not yet included in global PDF determinations. A PDF fit to these data is also presented, using a novel prescription reducing the fit sensitivity to missing higher orders and their uncertainties.

Submitted on behalf of a Collaboration?

No

Authors: GUIDA, Alessandro (Deutsches Elektronen-Synchrotron (DE)); GLAZOV, Alexander (Deutsches Elektronen-Synchrotron (DE)); AMOROSO, Simone (Deutsches Elektronen-Synchrotron (DE)); VAZZOLER, Federico (Deutsches Elektronen-Synchrotron (DE)); SADYKOV, Renat (Joint Institute for Nuclear Research (RU)); YERMOLCHYK, Yulia (Joint Institute for Nuclear Research (RU)); CAMARDA, Stefano (CERN); BOONEKAMP, Maarten (CEA/Saclay); APERIO BELLA, Ludovica (Deutsches Elektronen-Synchrotron (DE))

Presenter: GUIDA, Alessandro (Deutsches Elektronen-Synchrotron (DE))

Session Classification: WG1: Structure Functions and Parton Densities

Track Classification: WG1: Structure Functions and Parton Densities