Contribution ID: 6

A Neural-Network Extraction of Unpolarized Transverse-Momentum Distributions from Drell-Yan data

Monday 23 June 2025 15:45 (25 minutes)

We present the first proof of concept extraction using neural networks (NNs) of the unpolarised transversemomentum distributions (TMDs) at next-to-next-to-leading logarithmic (N3LL) accuracy. By offering a more flexible and adaptable approach, NNs overcome some of the limitations of traditional functional forms, providing a better description of data. This work focuses exclusively on Drell-Yan (DY) data and establishes the feasibility of NN-based TMD extractions.

Authors: Prof. BACCHETTA, Alessandro; BISSOLOTTI, Chiara (Argonne National Laboratory); Mr ROSSI, Lorenzo (University of Milan & INFN); RADICI, Marco; CERUTTI, Matteo (Hampton University and Jefferson Lab); RODINI, Simone (University of Regensburg); Dr BERTONE, Valerio (C.E.A. Paris-Saclay)

Presenter: BISSOLOTTI, Chiara (Argonne National Laboratory)

Session Classification: Monday Session