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## Recent analysis of Drell-Yan data

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We present a comprehensive analysis and extraction of the unpolarized transverse momentum dependent (TMD) parton distribution functions, which are fundamental constituents of the TMD factorization theorem. We provide a general review of the theory of TMD distributions, and present a new scheme of scale fixation. This scheme, called the  $\zeta$ -prescription, allows to minimize the impact of perturbative logarithms in a large range of scales and does not generate undesired power corrections. Within  $\zeta$ -prescription we consistently include the perturbatively calculable parts up to next-to-next-to-leading order (NNLO), and perform the global fit of the Drell-Yan and Z-boson production, which include the data of E288, Tevatron and LHC experiments. The non-perturbative part of the TMDs are explored checking a variety of models. The numerical evaluations are provided by the “arTeMiDe” code, which is introduced in this work and that can be used for current/future TMD phenomenology.

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