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Global fit of unpolarized partonic TMDs

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Transverse momentum dependent (TMD) distributions describe the internal structure of the nucleon in terms of its elementary constituents, including also the dependence on the transverse momentum. TMDs parton distribution (PDF) and fragmentation functions (FF) cannot be easily computed from first principles, because they require QCD calculations in its nonperturbative regime. We present an extraction of unpolarized TMDs, derived from a simultaneous fit of available data measured in semi-inclusive deep-inelastic scattering, Drell-Yan and Z boson production and taking into account also contributions of TMD evolution at next-to-leading logarithmic accuracy. We discuss the results obtained from this first attempt at a global fit of TMDs and possible future improvements.

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