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Small- b matching for leading power TMD

Transverse-momentum dependent parton distributions are genuine non-perturbative functions that describe the 3-dimensional structure of a hadron. These distributions should be extracted from data. However, even if one restricts himself to the leading power distributions, eight of them has to be considered. A way to reduce the complexity, they can be evaluated in a model-independent way in terms of collinear distributions in the limit of large- q_T or small- b in the position space. This procedure is called “matching” and typically it serves as an initial input for the nonperturbative model of the TMD distributions.

In this talk I will present the full matching up to the first correction in the transverse separation b for all the leading-power TMD parton distributions at next-to-leading order in perturbation theory. I will discuss the general procedure and highlight the crucial step of the computation.

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