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## PDF bias and flavor dependence in TMD distributions

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Transverse momentum dependent (TMD) distributions match collinear parton density functions (PDF) in the limit of small transverse distances, which is accounted for by global extractions of TMD distributions. We study the influence of the PDF choice on the determination of unpolarized TMDPDFs and the description of TMD Drell-Yan-pair and Z-boson production data. We find that PDF essentially biases the extraction of TMDPDF. The bias is alleviated once the PDF uncertainty is taken into account and the non-perturbative TMD profile is flavor-dependent. Both points improve the agreement between theory and experiment, substantially increase the uncertainty in extracted TMD distributions, and should be taken into account in future global analyses.

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