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Evolution of TMD parton distributions up to NNLO approximation.

The transverse momentum dependent (TMD) of parton distributions will provide us new insights into the substructure of nucleon beyond the one-dimensional (longitudinal) picture. Evidence for TMDs are accessible in processes such as semi-inclusive DIS (SIDIS) or dileptons produced in the Drell-Yan process. Here we are investigating the evolution the the unpolarized TMDs up to NNLO approximation. The calculations are based on Collins-Sopper-Sterman formalism. The unknown parameters of non-perturbative part is being extracted via the fitting to the BNLY group experimental data. Comparison the evolved TMDs with each other at the NLO and NNLO approximations, indicates that the contribution of NNLO approximation will be dominated at the high energy scale. This is expecting since at higher energy scale the gluon radiation is increasing and consequently the effect of parton transverse momentum would be outstanding.

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