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Operator Product Expansion in Wilson lines with sub-eikonal spin corrections

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Abstract:

Low-x evolution of spin-dependent TMDs and spin g_1 structure function are relevant for the future Electron Ion Collider.
Recently, the spin-low-x evolution was obtained in the saturation formalism. Unfortunately, it does not agree with previous result obtained by calculation of perturbative diagrams in the leading log approximation so an independent study on this subject becomes necessary. To this end, I will discuss the Operator Product Expansion in terms of Wilson lines with sub-eikonal corrections, and study the low-x evolution of the spin-dependent TMDs and spin g_1 structure function. To extend the low-x evolution of TMD at NLO level, it is important to study the conformal properties of the relevant operators. As a starting point, I will consider the conformal invariance of the low-x evolution of gluon TMD in the Sudakov regime.

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