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## Twist-3 approach to hyperon polarization in unpolarized proton-proton collision

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We study the transverse polarization of hyperons produced in the high-energy unpolarized proton-proton collision in the framework of the collinear factorization. This phenomenon is one of the twist-3 observables and twist-3 distribution and fragmentation functions contribute. In this work, we focus on the former contribution and derive the LO complete cross-section. For the soft-gluon-pole term, we develop the "Master formula" which simplifies the procedure of calculation and show explicitly that only the derivative term contributes. Moreover, we calculate the soft-femion-pole contribution for the first time and show that it vanishes. These results provide a useful tool to explain the mechanism of the hyperon polarization.

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