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# Subleading-twist effects in single-spin asymmetries in semi-inclusive deep-inelastic scattering on a longitudinally polarized hydrogen target

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**Abstract**

Single-spin asymmetries in the semi-inclusive production of charged pions in deep-inelastic scattering from transversely and longitudinally polarized proton targets are combined to evaluate the subleading-twist contribution to the longitudinal case. This contribution is significantly positive for $\pi^+$ mesons and dominates the asymmetries on a longitudinally polarized target previously measured by HERMES. The subleading-twist contribution for $\pi^-$ mesons is found to be small.


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