

Abstract Submitted
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Transverse target single-spin asymmetry in inclusive electroproduction of charged pions and kaons by HERMES TOSHI-AKI SHIBATA, Tokyo Institute of Technology, HERMES COLLABORATION — HERMES is a polarized deep inelastic scattering experiment at DESY. It uses 27.6 GeV electron/positron beam at DESY-HERA and internal gas targets. In this talk, recent results from the analyses on azimuthal asymmetry of π^\pm and K^\pm production with unpolarized beam on transversely polarized hydrogen target[1] will be presented. π^+ , π^- , K^+ and K^- are detected in high-statistics inclusive measurements as functions of P_T and X_F . A_{UT} is measured and the $\sin\psi$ amplitude is extracted for these particles where ψ is the azimuthal angle determined by the beam axis, hadron momentum vector and the target spin direction. The results show clear positive amplitudes for π^+ and K^+ and a slightly negative amplitude for π^- . The results are interpreted based on the three relative scales, Λ_{QCD} , P_T and Q . The Sivers and Collins mechanisms and twist-three quark-gluon correlation function are relevant in different kinematic regions. Correlations between P_T and X_F can be studied with these data.

[1] A. Airapetian et al. HERMES, Transverse target single-spin asymmetry in inclusive electroproduction of charged pions and kaons, Phys. Lett. B 728 (2014) 183.

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