

Transversity and Collins functions: from e^+e^- to SIDIS processes

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We present a global analysis of azimuthal asymmetries in $e^+e^- \rightarrow h_1 h_2 X$ processes (BELLE data) and in semi-inclusive deep inelastic scattering (HERMES and COMPASS data). It results in the extraction of the Collins fragmentation function and of the transversity distribution function for u and d quarks. These turn out to have opposite signs and to be sizably smaller than their positivity bounds. Predictions for the azimuthal asymmetry $A_{UT}^{\sin(\phi_h + \phi_S)}$ for polarized proton target at JLAB and COMPASS experiments are given.

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