Collins Effect In Polarized SIDIS
And e^+e^- Data

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Abstract

The recent data on the weighted transverse single spin asymmetry $A_{UT}^{\sin(\phi_h+\phi_S)}$ from HERMES and COMPASS collaborations are analysed within LO parton model with unintegrated parton distribution and fragmentation functions; all transverse motions are taken into account, with exact kinematics, in the elementary interactions. Extraction of favoured and unfavoured Collins fragmentation functions is performed. Based on the extracted Collins functions, predictions for $A_{UT}^{\sin(\phi_h+\phi_S)}$ asymmetries at JLab are given; suggestions for further measurements at COMPASS, with a transversely polarized hydrogen target and selecting favourable kinematical ranges, are discussed. Extracted Collins functions give an exellent description of e^+e^- data from BELLE collaboration. Conclusions about possible extraction of transversity based on SIDIS and e^+e^- data are given.