

# Joint 20th International Workshop on Hadron Structure and Spectroscopy and 5th workshop on Correlations in Partonic and Hadronic Interactions



Contribution ID: 22

Type: **not specified**

## Preliminary HERMES results on the beam-spin induced polarization of Lambda and anti-Lambda hyperons produced in semi-inclusive DIS

*Friday 4 October 2024 11:50 (15 minutes)*

We present a detailed study of the polarization transfer from a longitudinally polarized lepton beam to the  $\Lambda$  and  $\bar{\Lambda}$  hyperons produced in semi-inclusive deep-inelastic scattering (SIDIS). The spin-transfer coefficients  $DLZ$  and  $\bar{DLZ}$  are extracted using a three-dimensional method, allowing independent measurement of the spin-transfer vector components in the  $\Lambda$  rest frame. The analysis is based on data collected by the HERMES experiment during 1999-2007, covering a wide range of kinematic variables. The preliminary results show that the spin-transfer coefficients are compatible with zero, suggesting a negligible contribution from up quarks that dominate  $\Lambda$  production in the current-fragmentation region for HERMES kinematics. These findings provide new insights into the spin-dependent fragmentation functions and the underlying dynamics of polarized quark fragmentation.

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**Session Classification:** Friday Morning