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Transverse spin asymmetries for inclusive ρ^0 production in SIDIS at COMPASS

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Studying the partonic and spin structure of the nucleon via Semi-Inclusive measurements of DIS (SIDIS) is one of the most important objectives of the COMPASS experiment (CERN, SPS). Nucleon spin (in)dependent azimuthal asymmetries accessible in single-hadron and hadron-pair production in SIDIS encode information on both the partonic structure of the nucleon and the fragmentation process. Production of vector mesons in SIDIS is a particularly interesting channel to study the polarized fragmentation and related phenomena. In this talk preliminary COMPASS results for the first ever measurement of inclusive ρ^0 transverse-spin asymmetries will be shown for the first time.

The analysis is based on the data-set collected by COMPASS in 2010 using a 160 GeV/c μ^+ beam and a transversely polarized NH_3 target.

The asymmetries are extracted as function of Bjorken-x, total transverse momentum of the hadron pair and the energy fraction carried by the pair.

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