

Measurement of the polarised Drell-Yan process at COMPASS

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Collaboration

COMPASS

Abstract content

The COMPASS experiment at CERN has been playing an important role in the studies of the spin content of the nucleon. The Semi-Inclusive Deep Inelastic Scattering (SIDIS) process gives access to the transverse momentum dependent parton distribution functions (TMDs) by the measurement of azimuthal asymmetries that have been studied in COMPASS and published in recent years. TMDs are also accessible by the transversely polarised Drell-Yan (DY) process which will be measured in COMPASS. This will be the first ever polarised DY measurement. The valence quarks region will be dominant due to the use of a negative pion beam at 190 GeV/c momentum impinging on a transversely polarised ammonia target. The QCD prediction that Sivers and Boer-Mulders TMDs change sign when accessed by SIDIS or by DY will be checked by the COMPASS measurement. The data taking is scheduled to start in the fall of this year. After one year of data collection, a statistical error below 2% in the azimuthal asymmetry related to the u quark Sivers function is expected. Details of the final experimental setup will be presented.

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