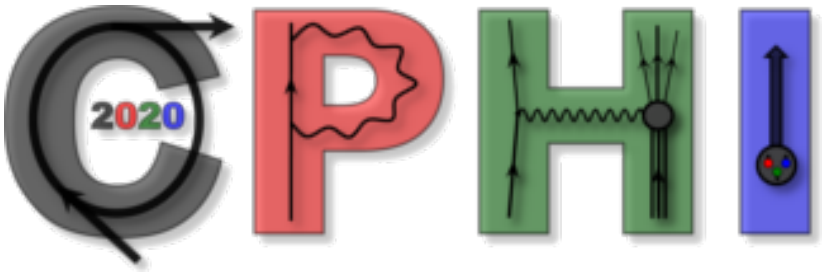

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TMD observables in unpolarised SIDIS at COMPASS

Monday 3 February 2020 15:15 (25 minutes)

In 2016 and 2017 the COMPASS Collaboration at CERN collected a large sample of DIS events with a longitudinally polarized 160 GeV/c muon beam scattering off a liquid hydrogen target. A small subsample of the collected data has been analysed to extract preliminary results for the transverse momentum dependent charged hadron multiplicities and the amplitudes of the azimuthal modulations $A_{UU}^{\cos\phi_h}$, $A_{UU}^{\cos 2\phi_h}$ and $A_{LU}^{\sin\phi_h}$. Both multiplicities and azimuthal asymmetries can be related to the intrinsic transverse momentum k_T of the quarks, while $A_{UU}^{\cos\phi_h}$ and $A_{UU}^{\cos 2\phi_h}$ are also related to the still unknown Boer-Mulders TMD PDF $h_1^\perp$. In this talk, preliminary results from the 2016 data will be shown for both observables. It is found that the unpolarised azimuthal asymmetries exhibit strong kinematic dependences, which are similar to the published COMPASS deuteron results. Recently, it has been demonstrated that particles coming from the decay of diffractively produced vector mesons contribute considerably to these observables. The planned strategy for the 2016/17 data analysis will be discussed.

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