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Measurement of W^\pm boson single-spin asymmetry in transversely polarized pp collisions at STAR DMITRI SMIRNOV, SALVATORE FAZIO, Brookhaven National Laboratory, STAR COLLABORATION — TMeasurement of W^\pm boson single-spin asymmetry in transversely polarized pp collisions at STARhe
Sivers function f_{1T}^\perp describes the correlation of parton transverse momentum with the transverse spin of the nucleon. There is evidence of a quark Sivers effect in semi-inclusive DIS (SIDIS) measurements. Important aspects of the Sivers effect include its process dependence and the color gauge invariance. As a consequence, the quark Sivers functions are of opposite sign in SIDIS and in Drell-Yan and this non-universality is a fundamental prediction from the gauge invariance of QCD. The experimental test of this sign change is one of the open questions in hadronic physics, and can provide a direct verification of QCD factorization. While luminosities required for a meaningful measurement of asymmetries in Drell-Yan production are challenging, W^\pm production with a comparable sensitivity to the predicted sign change can be measured at the STAR experiment. At these large Q^2 the result can also provide essential input for the evolution effects of the Sivers function. We report on the first attempt to measure the transverse single spin asymmetry, A_N , of the W^\pm boson at RHIC. The W kinematics is reconstructed by employing MC-based corrections dictated

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