

Measurements of spin transfer to Λ and $\bar{\Lambda}$ hyperons in polarized pp collisions at STAR

Jinlong Zhang, for the STAR Collaboration

Shandong University

In high energy nucleon-nucleon collisions, the polarization of partons at the initial state can be transferred to the final state after partonic scattering and memorized by the produced hadrons. Measurement of the spin transfer to Λ and $\bar{\Lambda}$ hyperons in longitudinally and transversely polarized pp collisions could provide access to the helicity and transversity Parton Distribution Functions (PDFs), respectively. The polarized Fragmentation Functions (FFs) could be constrained as well, especially for the poorly constrained strange and anti-strange quarks.

In this contribution, we will present the final results of improved measurements of longitudinal spin transfer D_{LL} and transverse spin transfer D_{TT} to Λ and $\bar{\Lambda}$ with the largest datasets collected of longitudinally and transversely polarized pp collisions at $\sqrt{s} = 200$ GeV by the STAR experiment at RHIC.