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Longitudinal and Transverse Spin Transfer of Λ and $\overline{\Lambda}$ Hyperons in Polarized p+p Collisions at $\sqrt{s} = 200$ GeV at RHIC-STAR

Since the first surprising results on the spin structure of the proton by the EMC experiment in the late 1980s, much progress has been made in understanding the origin of the proton spin.

However, the sea quark contribution to the proton spin, for example,
the polarized distributions of the strange quark(anti-quark), $s(\bar{s})$,
are still not well constrained by experimental data.
Since the $s(\bar{s})$ is expected to carry a substantial fraction of the spin of the $\Lambda(\bar{\Lambda})$ hyperon,
measurements of the longitudinal spin transfer, D_{LL}, and the transverse spin transfer, D_{TT},
of the $\Lambda(\bar{\Lambda})$ hyperon in polarized proton-proton collisions can thus shed light
on the helicity and transversity distriubtions of the $s(\bar{s})$ and the corresponding polarized fragmentation functions.
In this talk, we will present the status of the $\Lambda(\bar{\Lambda})$ D_{LL} and D_{TT} analyses
using data collected at RHIC-STAR experiment in 2015, for the pseudo-rapidity $|\eta| < 1.2$ and
transverse momenta up to 8.0 GeV/c.
This dataset is about twice as large as that used for the previously published D_{LL} and D_{TT} results.

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