

The Polarization of Anti-Lambda Produced In $\sqrt{s}=200\text{GeV}$ Polarized Proton-Proton Collision

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The polarization of baryons (especially anti-lambdas) produced in pp collision as a function its rapidity is expected to be sensitive to the polarization of the anti-strange sea of the nucleon and also sensitive to the polarized fragmentation functions of quarks into the baryons.

The substantially non-zero and rather large spin transfers have been observed in FNAL E704 and E665 experiments. But the polarization reactions can be studied for the first time in pp scattering at higher luminosity and higher energies at RHIC.

In this presentation, we discuss the anti-lambda polarization and its dependence on pseudo-rapidity in $\sqrt{s}=200\text{GeV}$ polarized proton-proton collisions at RHIC/PHENIX. Using 0.25pb^{-1} collected in 2003 with beam polarizations 26%, the anti-lambda candidates are reconstructed at mid-rapidity via its weak decay channel $\bar{\Lambda} \rightarrow \bar{p} \pi^+$ and the tracking of charged particles is measured with the PHENIX central arm detector.