

Measurement of global polarization of Λ hyperons in Au+Au
 $\sqrt{s_{\text{NN}}} = 7.2$ GeV Fixed-target collisions at RHIC-STAR
experiment

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The medium generated by non-central nuclear-nuclear collision would have a large angular momentum, which drives the vorticity of the created system. Due to the spin-orbit coupling, spin directions of particles get aligned with the angular momentum of the system. Global polarization of Λ and $\bar{\Lambda}$ hyperons has been measured from $\sqrt{s_{\text{NN}}} = 7.7$ GeV to 200 GeV[1][2]. Additionally it is important to test if the $\bar{\Lambda}$ global polarization is higher than that of Λ possibly because of magnetic field in the initial state. It would be also interesting to test how long the magnetic field could be sustained towards lower beam energy.

In this talk, measurement of global polarization of Λ hyperons in Au+Au collisions at $\sqrt{s_{\text{NN}}} = 7.2$ GeV with the fixed-target configuration will be reported.

References

- [1] L.Adamczyk et al.(STAR) Nature 548 62 (2017).
- [2] J.Adam et al.(STAR), Phys. Rev. C 98 14910 (2018)