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

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Non-central heavy-ion collisions produce a large angular momentum that leads to vorticity of the created system. Due to the spin-orbit coupling, spin directions of particles are aligned with the orbital angular momentum of the system. Global polarization of Λ and $\bar{\Lambda}$ hyperons has been measured in Au+Au collisions from $\sqrt{s_{NN}} = 7.7$ GeV to 200 GeV [1][2]. The STAR fixed target program provides an opportunity to extend such measurements at even lower energies. Additionally, Λ global polarization is also influenced by magnetic field at the initial stage. It would be interesting to investigate such effects towards lower beam energies. In this talk, measurement of global polarization of Λ hyperons in Au+Au collisions at $\sqrt{s_{NN}} = 7.2$ GeV with the fixed-target configuration is reported.

[1] L.Adamczyk et al.(STAR) Nature 548 62 (2017).

[2] J.Adam et al.(STAR), Phys. Rev. C 98 14910 (2018)

Collaboration

STAR Collaboration

Presenter: OKUBO, Kosuke (University of Tsukuba)

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