Global polarization of Λ hyperons in Au+Au $\sqrt{s_{\rm NN}} = 7.2$ GeV collisions with fixed-target mode at RHIC-STAR experiment

Kosuke Okubo (for the STAR Collaboration)
University of Tsukuba

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 $\overline{\Lambda}$ hyperons has been measured in Au+Au collisions from $\sqrt{\rm s_{NN}} = 7.7$ GeV to 5.02 TeV [1–3]. The STAR fixed target program provides an opportunity to extend such measurements at even lower energies. In this poster, differential measurements such as centrality, rapidity and transverse momentum dependence of global polarization of Λ hyperons in Au+Au collisions at $\sqrt{s_{\rm NN}} = 7.2$ GeV with the fixed-target configuration is reported.

References

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