Global polarization of Ξ hyperons in Au+Au collisions in the STAR experiment

- Egor Alpatov (for the STAR collaboration)
- National Research Nuclear University MEPhI

The STAR experiment measured global polarization of Λ hyperons in Au+Au collisions at $\sqrt{s_{NN}}=7.7$ - 200 GeV, providing proofs of the most vortical fluid observations. Global hyperon polarization, appearing due to spin-orbit coupling, reflects the initial orbital angular momentum and vorticity of the system. Centrality dependence of Λ global polarization is successfully described by different theoretical approaches and was studied in a wide energy range. Multistrange hyperon global polarization can provide new experimental input for collective flow studies and hydrodynamic description of the system. In this talk, we will report results of Ξ hyperon global polarization ($P_{\Xi^-+\Xi^+}$) measurement for Au+Au collisions at $\sqrt{s_{NN}}=27$, 54.4 GeV and 200 GeV. The physics implications will be discussed.