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Study of global and local polarization of Λ and $\bar{\Lambda}$ hyperons in Pb-Pb collisions at ALICE

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The system created in relativistic nucleus-nucleus collisions may possess large orbital angular momentum leading to the particle global polarization perpendicular to the reaction plane. The local asymmetries in the velocity fields due to anisotropic flow can generate vorticity and particle polarization along the beam direction. In parity violating weak decays of hyperons, the momentum direction of the decay baryon is correlated with the hyperon spin and can be used to measure the hyperon polarization and thus estimate the global and local vorticity of the system created in relativistic heavy ion collisions. In this talk, the recent experimental measurements of the global and local polarization along the beam direction of the Λ and $\bar{\Lambda}$ hyperons in Pb-Pb collisions at 2.76 and 5.02 TeV in ALICE will be discussed.

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