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Hyperon polarization along the beam direction in pPb collision at CMS

The observation of hyperon polarization along beam direction (P_z) in nucleus-nucleus collisions has opened a new way to study the complex vortical structures of the QGP. With the high-statistics data collected by the CMS experiment, we present the first P_z results for Λ and $\bar{\Lambda}$ particles in pPb collision at $\sqrt{s_{NN}} = 8.16$ TeV over a wide transverse momentum (p_T) and multiplicity range. The measured P_z signal has been found to increase towards lower multiplicity and higher p_T . Comparison with theoretical calculations will be discussed. These results can shed light on the mechanism and theoretical implementation of spin polarization in heavy ion collisions.

Category

Experiment

Collaboration (if applicable)

CMS

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