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Hyperon polarization along the beam direction in pPb collision at CMS

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The observation of hyperon polarization along beam direction (P_z) in nucleus-nucleus collisions has revealed the relationship between collective flow and the complex vortical structures of the quark-gluon plasma (QGP). With the high-statistics data collected by the CMS experiment, we present the first P_z results in proton-lead collisions at $\sqrt{s_{NN}} = 8.16$ TeV over a wide transverse momentum range for Λ and $\bar{\Lambda}$ particles at low- and high-multiplicity events. The measured P_z signal can shed light on the mechanism of spin polarization in QGP as well as the origin of collectivity in small collision systems.

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