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Transverse momentum dependent flow vector fluctuations from model calculations

In relativistic heavy-ion collisions, the final state collectivity is characterized by the anisotropic flow, measured through flow vector estimations. Hydrodynamics calculations and experimental data show that the flow vector fluctuates as a function of particle transverse momenta event-by-event, indicating fluctuations in the initial energy density of the nuclear collisions. In heavy-ion collisions, the ratio between the flow vectors constructed from the azimuthal distribution of particles from different transverse momentum intervals deviates from unity along with its characteristic dependence on the $_T$ of the corresponding particles. The similar study in small system would be helpful to understand the origin of collective-like effects observed in high-multiplicity classes of small collision systems.

This poster will present the flow harmonic factorization ratio in p-Pb collision at $\sqrt{s_{NN}}$ = 5.02 TeV estimated in AMPT and EPOS models. The $_T$-dependent flow coefficients are estimated from the two-particle correlation technique, similar to the one used in experimental measurements. Results obtained from this study will help to provide insight in anisotropic flow and its origins in small collision systems.

Collaboration / Activity

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