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Type: Parallel Talk

Anisotropic flow of (multi-)strange hadrons in Au+Au collisions at BES-II energies.

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One of the main goals of the STAR experiment is to map the QCD phase diagram. The flow harmonics of azimuthal anisotropy (v_2 and v_3) of particles are sensitive to the initial dynamics of the medium. The first phase of RHIC Beam Energy Scan Phase-I (BES-I) program demands a precision measurement of v_2 and v_3 specifically for ϕ mesons and multi-strange hadrons in the low energy regimes.

STAR has recently finished the data taking for Beam Energy Scan Phase-II (BES-II) program with higher statistics, improved detector condition, and wider pseudorapidity coverage compared to what was available during BES-I program. In this talk, we will present the measurements of v_2 and v_3 of strange and multi-strange hadrons (K_S^0 , $\Lambda(\bar{\Lambda})$, ϕ , $\Xi^-(\bar{\Xi}^+)$, and $\Omega^-(\bar{\Omega}^+)$) at $\sqrt{s_{NN}} = 14.6$ and 19.6 GeV. The centrality dependence, the number of constituent quark (NCQ) scaling, and baryon to anti-baryon difference in v_2 and v_3 will be presented. Finally, the physics implications of our measurements in the context of partonic collectivity will be discussed.

In-person participation

No

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