Title:

Higher-order diagonal cumulants of net-(K+Λ) multiplicity distributions and off-diagonal cumulants of net-proton and net-kaon multiplicity distributions in Au+Au collisions at $\sqrt{s_{NN}}$ =27 GeV

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Susceptibilities of conserved quantities, such as net-charge, net-baryon, and net-strangeness, are sensitive to the quantum chromodynamics (QCD) phase transition, and also the QCD critical point. The prime aim of the RHIC beam energy scan program is to explore the QCD phase diagram and search for the location of QCD critical point, which can be studied by higher-order cumulants of net-proton (Δp) and net-kaon (Δk) multiplicity distributions. Additionally, the cumulants of net-(K+Λ) multiplicity distributions are sensitive to net-strangeness susceptibility in heavy-ion collisions. Hence it can provide an insight to study flavor-dependent chemical freeze-out parameters in the QCD phase diagram. In the year 2018, the STAR experiment has collected high statistics minimum bias data in Au+Au collisions at $\sqrt{s_{NN}} = 27$ GeV. We present the higher-order diagonal cumulants (1st to 4th order) and their ratios of net-(K+Λ) multiplicity distributions. Furthermore, the off-diagonal cumulants between Δp-Δk at this collision energy along with other published results from the beam energy scan phase-I will be discussed.