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Study the production of identified charged hadrons in Au+Au collisions at √sNN = 54.4 GeV using the STAR detector

Thursday 8 September 2022 15:30 (20 minutes)

Exploring the QCD phase diagram and searching for the QCD critical point are some of the main goals of the Beam Energy Scan program at RHIC. In 2017, the STAR experiment collected large dataset of Au+Au collisions at $\sqrt{s_{NN}} = 54.4$ GeV. The identified particle spectra and yields provide information about the bulk properties of the hot medium created in these collisions. The centrality dependence of the freeze-out parameters explores a wide (T, μ_B) region in the phase diagram facilitating the search for the QCD critical point.

We present the measurements of the production of $\pi^{\pm}$, $K^{\pm}$, p, and $\bar{p}$ at midrapidity $|y| \leq 0.1$. The results for the transverse momentum spectra, particle yields dN/dy, average transverse momentum $\langle p_T \rangle$, and particle ratios will be presented for different centrality classes and compared with AMPT and HIJING model calculations. In addition, the extracted freeze-out parameters will be compared with the results at other collision energies. The physics implications of the results will be discussed.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

STAR Experiment BNL

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Maybe

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