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Proton-proton femtoscopy in Au+Au collisions at $\sqrt{s_{NN}} = 3.2 \text{ GeV}$

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Correlation function of baryons has been used in heavy-ion collisions to study the space-time structure, the dynamical evolution of the particle-emitting source, and final state interactions.

In this poster, we will present correlation functions of protons in Au+Au collisions at $\sqrt{s_{NN}} = 3.2 \text{ GeV}$ from the second phase of the beam energy scan (BES-II) at STAR. The Lednicky-Lyuboshitz model is used to fit the proton correlation function. The scattering length and effective range of the strong interaction and the source size are extracted and their physics implications will be discussed. We will also discuss the energy dependence of the source size by comparing with the published results of 200 GeV.

Category

Experiment

Collaboration (if applicable)

from RHIC-STAR

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