

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

Yu Zeng  
(for the STAR Collaboration)

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

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