

Measurements of K^+K^+ Correlation Function in $\sqrt{s_{NN}}$ = 3.0 GeV Au+Au Collisions at RHIC-STAR

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The K^+K^+ correlation function is widely used to infer the meson source spatial and temporal extents in relativistic heavy-ion collisions. Compared to pion one, the hadronic cross section of kaons and the resonance decay effect are smaller. Thus K^+K^+ correlation function is a good observable to provide the information of medium source size in heavy-ion collisions. Due to the space-momentum correlation, information on collectivity can also be extracted from the correlation functions.

In this talk, we will present the first measurement of K^+K^+ correlation function in Au + Au collisions at $\sqrt{s_{NN}} = 3.0$ GeV with a FXT target mode at RHIC-STAR. We correct detector effect, such as track merging/splitting and momentum resolution on the K^+K^+ correlation function in the mid-rapidity region. The results will be presented as a function of rapidity and centrality. The extracted information of source size will be also discussed.