

Measurement of $K_s^0 - K_s^0$ correlation function in Au+Au collisions at the high baryon density region

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1 Two-particle correlation analyses are often used to study the spatial and temporal
2 extension of particle-emitting source in high-energy nuclear collisions. Precise information
3 on the final state interactions amongst the particles under study can also be extracted
4 from the measurement. It is particularly interesting to study the energy dependence
5 of the extracted source size at the moment of freeze-out. Two-kaon correlations are an
6 important supplement to those of pions, as they are less affected by resonance decays and
7 they have smaller hadronic cross-section.

8 In this poster, the measurements of $K_s^0 - K_s^0$ correlations in Au+Au collisions with
9 the fixed-target mode at $\sqrt{s_{NN}} = 3.0, 3.2, 3.5,$ and 3.9 GeV, by the STAR experiment
10 will be presented. This presents the first measurements of the systematic study on fem-
11 toscopic correlations involving strangeness at the high baryon density region. The energy
12 dependence of particle-emitting source parameters will be compared with transport model
13 calculations.