

1 **Measurements of Λ - Λ , Ξ - Ξ , p- Ξ Correlation in Au+Au**
2 **collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV and p-p Correlation in**
3 **Au+Au FXT target collisions**
4 **at $\sqrt{s_{\text{NN}}} = 3$ GeV at RHIC-STAR**

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7 Understanding of baryon-baryon interactions is important to examine the existence of stran-
8 glets and various exotic hadrons, e.g. H-dibaryon, and to model of astronomical objects such
9 as neutron stars. However hyperon-nucleon and hyperon-hyperon interactions are not fully
10 understood yet. In high energy heavy-ion collisions, a large number of particles including
11 (multi-)strangeness are produced, which may allows us to study those interactions via fem-
12 toscopic measurements with better precision. At low relative momentum, the correlations
13 between two particles are influenced by the strong and Coulomb interactions as well as quan-
14 tum statistical effect sensitive to the emission source size for identical pairs. Thus measuring
15 correlations of two baryons is a useful probe to extract the scattering parameters between
16 the baryons and the size of the particle emission.

17 In this talk, we present measurements of Λ - Λ correlations in Au+Au collisions at $\sqrt{s_{\text{NN}}} =$
18 200 GeV with largely improved statistical precision compared to previous measurements for
19 studying a possible Λ - Λ bound state. We will also present the first measurements of Ξ - Ξ and
20 p- Ξ correlations in Au+Au collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV. New results of p-p correlation in
21 FXT target mode Au+Au collisions at $\sqrt{s_{\text{NN}}} = 3$ GeV will be also presented as a function
22 of the collision centrality, transverse momenta, and rapidity, and will be compared with the
23 calculations from UrQMD transport model. In addition, a systematic energy dependence of
24 the p-p correlation functions will be discussed.