

1           **Measurements of  $\Lambda$ - $\Lambda$ ,  $\Xi$ - $\Xi$ , and p- $\Xi$  Correlation**  
2                           **functions in Au+Au collisions**

3                           **at  $\sqrt{s_{\text{NN}}} = 200$  GeV at RHIC-STAR**

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6 The study of baryon-baryon interactions is important to understand the existence of  
7 strangelets and various exotic hadrons, e.g. H-dibaryon, and for modeling of astronomical  
8 objects such as neutron stars. However hyperon-nucleon and hyperon-hyperon interactions  
9 are little known. In high energy heavy-ion collisions, a large number of particles including  
10 (multi-)strangeness are produced, which allows us to study those interactions via femtoscopic  
11 measurements. At low relative momentum, the two-particle correlations are influenced by  
12 strong and Coulomb interactions as well as quantum statistical effect in case of two identical  
13 particles which is sensitive to the emission source size. Thus, by measuring the correlation  
14 of two baryons, one can extract the scattering parameters between the baryons and the size  
15 of the particle emission.

16 In this talk, more precise measurement of  $\Lambda$ - $\Lambda$  correlation in Au+Au collisions at  $\sqrt{s_{\text{NN}}}$   
17 = 200 GeV, with largely improved statistics compared to previous measurement, will be  
18 presented for studying a possible  $\Lambda$ - $\Lambda$  bound state. Also the first measurements of  $\Xi$ - $\Xi$  and  
19 p- $\Xi$  correlations in Au+Au collisions will be reported.