

1 **Measurements of d - Λ correlations in $\sqrt{s_{\text{NN}}} = 3$ GeV Au+Au**
2 **collisions at the STAR experiment**

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6 **Abstract**

7 Heavy-ion collisions provide a unique opportunity to explore nucleon-hyperon (N-Y)
8 interactions, through two-particle correlations. The d - Λ correlations shed light on both
9 N-Y two-body and N-N-Y three-body interactions, which is crucial for understanding
10 neutron star properties. We present the first measurement of d - Λ correlation with
11 $\sqrt{s_{\text{NN}}} = 3$ GeV Au+Au collisions at STAR. Using the Lednicky-Lyuboshitz formalism,
12 we characterize emission source size, the scattering length, and the effective range
13 of d - Λ interactions. The extracted parameters will be compared to those from p - Λ
14 correlations. The physics implications on final state interactions involving hyperons
15 and the hypertriton structure will also be discussed.