

Strangeness production in d +Au collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV using the STAR detector

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1 Strangeness production has been suggested as a sensitive probe to the early-time dynamics of
2 the deconfined matter created in heavy-ion collisions. The ratios of particle yields involving strange
3 particles are often utilized to study various properties of the created nuclear matter, such as the
4 strangeness chemical potential and the chemical freeze-out temperature. Analysis of d +Au data will
5 serve for connecting data between Au+Au and p + p collisions and supply the baseline for the study
6 of strangeness enhancement in the deconfined matter. The study of nuclear modification factor in
7 d +Au collisions can also help to understand Cronin-like effects.

8 In this poster, we will present new measurements of mid-rapidity strange particle production
9 (K_S^0 , Λ , Ξ , Ω) from d +Au collisions at $\sqrt{s_{\text{NN}}} = 200$ GeV recorded by the STAR experiment in
10 2016. We will report their transverse momentum spectra, dN/dy , average transverse momentum,
11 yield ratios, and nuclear modification factors. The physics implications on the collision dynamics
12 will be discussed.