

# Baryon-Strangeness Correlations in Au+Au Collisions at RHIC-STAR

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Fluctuations and correlations of conserved charges are sensitive observables to study QCD phase structure. In particular, the baryon-strangeness correlations may be used to study the change of phases in the matter created in heavy-ion collisions.

In this work, we present the measurement of baryon-strangeness correlations in Au+Au collisions from beam energy scan program at STAR. This is the first systematic analysis of baryon-strangeness correlations on the collision energy and centrality dependence including strange hadrons  $K^+$ ,  $\Lambda$  and  $\Xi^-$  along with their corresponding anti-particles. Physics implications will be discussed by comparing these new results with calculations from Lattice Gauge Theory, functional renormalization group as well as a hadronic transport model.

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