

1 Strangeness production in Au+Au collisions at
2 $\sqrt{s_{NN}} = 19.6$ GeV from STAR

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6 **Abstract**

7 The main motivation of the Beam Energy Scan (BES) program at RHIC is
8 to search for structures in the QCD phase diagram such as the critical end point,
9 the predicted first order phase transition between hadronic and partonic matter
10 and the chiral phase transition. Strangeness production has been suggested as
11 a sensitive probe to the early dynamics of the deconfined matter created in
12 heavy-ion collisions. Measurements from the BES-I have already shown some
13 hints for increasing dominance of hadronic interactions and the turn-off of the
14 signatures of quark-gluon plasma at low energies. However, the data precision
15 from BES-I is not sufficient to draw definite conclusions. The BES-II program,
16 with high statistics sample and detector upgrades, allows us to improve and
17 extend measurements in the energy range of $\sqrt{s_{NN}} \leq 19.6$ GeV. The production
18 of $\Lambda(\bar{\Lambda})$ and K_s^0 in Au+Au collisions at $\sqrt{s_{NN}}=19.6$ GeV will be presented in
19 this talk, including transverse momentum spectra, nuclear modification factors,
20 and particle ratios.