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Determination of chemical freeze-out parameters from net-kaon fluctuations at RHIC

Thursday 13 June 2019 15:00 (20 minutes)

We calculate the mean-over-variance ratio of the net-kaon fluctuations in the Hadron Resonance Gas (HRG) Model for the five highest energies of the RHIC Beam Energy Scan (BES) for different particle data lists. We compare these results with the latest experimental data from the STAR collaboration in order to extract sets of chemical freeze-out parameters for each list. We focused on the PDG2014 and PDG2016+ particle lists, which differ largely in the number of resonant states. Our analysis determines the effect of the amount of resonances included in the HRG on the freeze-out conditions. Our findings have a potential impact on various other models in the field of relativistic heavy ion collisions.

Collaboration name

Track

QCD phase diagram and critical point

Primary authors: RATTI, Claudia (University of Houston); PORTILLO, Israel (University of Houston); NORON-HA-HOSTLER, Jacquelyn (Rutgers University); STAFFORD, Jamie (Univeristy of Houston); ALBA, Paolo Giuseppe; PAROTTO, Paolo (University of Houston); BELLWIED, Rene (University of Houston (US)); MANTOVANI SARTI, Valentina (Technical University of Munich (TUM))

Presenter: STAFFORD, Jamie (Univeristy of Houston)

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