

Abstract Submitted
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p/K Fluctuations from Au+Au Collisions at RHIC JIAN TIAN¹

— Event-by-Event fluctuations may be employed to probe the dynamics of dense matter hadronization and possibly be sensitive to critical behavior in the evolution of QCD matter [1]. In the framework of quark coalescence for particle production, baryon to meson ratios may be sensitive to local parton densities. The measurement of p/K ratios also involves both baryon and strangeness quantum numbers in nuclear collisions. Fluctuations in the parton density and ratios will be used to search for possible critical point in nucleus-nucleus collisions. We will present measurements of fluctuations on p/K multiplicity ratios from Au+Au collisions using the STAR detector. Fluctuations from Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV and 62.4 GeV with various collision centralities will be compared. Different analysis techniques and comparisons with the AMPT model calculation will be used to illustrate the effects of resonance decays and pair production on the particle ratios.

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