

Measurement of Intermittency for Charged Particles in Au + Au Collisions at $\sqrt{s_{\text{NN}}} = 7.7\text{-}200$ GeV from STAR

Jin Wu (for the STAR Collaboration)

Central China Normal University

1 One of the main goals of RHIC beam energy scan (BES) program is to search for the signatures
2 of the QCD critical point in heavy-ion collisions. Local density fluctuations near the QCD critical
3 point exhibit strong intermittency which is revealed as the scale (power-law) dependence of scaled
4 factorial moments on phase-space resolution. The scaling exponent is related to the critical
5 component and can be extracted from the intermittency analysis of scaled factorial moments.
6 The energy dependence of the scaling exponent could be used to search for the signature of the
7 QCD critical point. Similar measurements have been carried out by the NA49 and the NA61
8 experiments in heavy-ion collisions with different system sizes.

9 In this talk, we will report the first measurement of intermittency for charged particles in
10 Au + Au collisions from the STAR experiment in the first phase of RHIC BES. Scaled factorial
11 moments (up to the sixth order) for charged particles at $\sqrt{s_{\text{NN}}} = 7.7\text{-}200$ GeV will be presented.
12 Moreover, we will show the energy and centrality dependence of the scaling exponent. The
13 physics implications of these results will be discussed.