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Event-by-Event fluctuations and consequences on experimental observable at CBM-FAIR and MPD-NICA energies

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The evolution of strongly interacting matter created at the FAIR-NICA energies characterized by high net baryon densities and moderate temperatures is expected to occur near the boundary of the first order phase transition and probable in vicinity of the critical QCD point. A large event-by-event fluctuations of hadronic observables are expected to be the signatures of this critical point. In this work we analyze event-by-event fluctuations of several observables like multiplicity, particle ratio, p_T , elliptic flow, other flow harmonics, strangeness fluctuations, using different simulation codes. The initial state asymmetry and its effects is discussed based on Glauber model. The region of high density and small temperature of the nuclear matter at FAIR-NICA energies can be considered also in terms of dense local multinucleon fluctuations that is a motivation to consider the possibility of the cumulative processes.

Content type

Experiment

Collaboration

Centralised submission by Collaboration

Presenter name already specified

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