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Strange hadron production analysis in relativistic nuclear collisions using Tsallis distribution

Transverse momentum spectra of strange hadrons produced in relativistic nuclear collisions at RHIC-BES energies are studied using Tsallis distribution as a parametrization. In the present work, the energy dependence and collision centrality of the Tsallis fit parameters, Tsallis temperature, volume and non-extensivity parameter, a parameter characterizing the degree of non-equilibrium for the systems produced in these collisions will be presented. Simple parametrizations for these dependences of the Tsallis parameters are provided in order to make predictions for the behaviour of the Tsallis parameters at FAIR collision energies. The physics implications of these results on the collision dynamics and kinetic freeze-out will be discussed.

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