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Tsallis fits to the transverse momentum spectra in high energy collisions

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Transverse momentum distributions of the final-state particles are very useful observables for the understanding of the dynamics of the high energy collisions. It has been shown that the Tsallis distribution gives an excellent description of p_T spectra measured in relativistic nuclear collisions at different energies and under different kinematical conditions of the data collection. The Tsallis distribution parameters can be related to the temperature fluctuations and the non-equilibrium degree of the produced system. In this work, a study of Tsallis fits performed to the transverse momentum spectra obtained in p-p and Au-Au collisions at RHIC energies, will be presented in order to obtain valuable insights on the thermodynamical evolution of the hot and dense partonic matter. The centrality and rapidity dependence of the nonextensivity parameter q will be analyzed. In addition, comparisons with different simulation code predictions (UrQMD, HIJING, AMPT) will be shown and discussed.

On behalf of collaboration:

NONE

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