

Study of particle production mechanism in Au+Au collisions at BES energies using A Multiphase Transport Model

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A Multi-Phase Transport (AMPT) model has been used extensively to study the dynamics of relativistic heavy-ion collisions at various collision energies. The AMPT model is very sensitive to input parameters; therefore, the choice of these parameters are very important to explain the results from various experiments. The motivation of this study is to find the most suitable input parameters for AMPT model that explains the particle production and bulk properties of the medium formed at various BES energies at RHIC.

In this talk, we will present the p_T -spectra of identified hadrons (π^\pm , K^\pm , $p(\bar{p})$, K_s^0 , $\Lambda(\bar{\Lambda})$ and ϕ) in Au+Au collisions at $\sqrt{s_{NN}} = 7.7-200$ GeV obtained from AMPT model and compare it with the available experimental results. We will also present the centrality and energy dependence of particle yields (dN/dy), average transverse momentum ($\langle p_T \rangle$), particle ratios, and compare them with experimental data.

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