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Strangeness production in high energy collisions

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One of the major goals of high-energy heavy-ion research is to explore the properties of strongly interacting matter, as it may undergo a phase transition into a system of deconfined quarks and gluons (quark-gluon plasma, QGP). Strange particle production has been one of the most important observable in the search for the QGP. In this work, the pion and kaon enhancement factors from Au+Au collisions at RHIC energies (the yield per mean number of participating nucleons, Npart, in heavy-ion collisions divided by the respective value in p+p collisions) will be presented. The rapidity and Npart (collision centrality) dependence of these enhancement factors will be shown and discussed. We will also present the rapidity and baryo-chemical potential dependence of the produced particle ratios. In addition, comparisons with the simulated heavy ion collisions at future CBM-FAIR energies using different simulation codes (UrQMD, HIJING, AMPT) integrated in the YaPT system will be shown and discussed.

On behalf of collaboration:

NONE

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