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Study of strangeness production at top SIS100 energy

The prime focus of relativistic heavy ion collisions is to study the nuclear matter under extreme conditions to explore the QCD phase diagram. There are various observables to study such matter. One of the important observables is rapidity or transverse momentum dependent strangness production. The strangeness production are studied extensively at RHIC, LHC energies. Researchers observed that strangeness is enhanced in heavy ion collisions at such high relativistic energies. Plenty of studies are reported on strangeness production at AGS and SPS energies. The same needs to be studied for SIS18 and SIS100 energies as well. The future Compressed Baryonic Matter (CBM) experiment at the Facility for Anti-proton and Ion Research (FAIR), Darmstadt, Germany, is dedicated to studying the nuclear matter at SIS18 and SIS100 energies. In this study, an attempt has been made to study strangeness production and particle ratios in the CBM detector acceptance using hybrid UrQMD-hydro generated Monte Carlo(MC) data at 10 AGeV Au+Au collisions. The results have been compared with those from strangeness production from the hadronic approach of UrQMD.

Field of contribution

Phenomenology

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