Contribution ID : 109

Meson spectra and m_T scaling in pp, dAu and Au Au collisions at $\sqrt s_{NN}$ = 200 GeV

Content :

Many signals at RHIC point to the formation of Quark Gluon Plasma (QGP) detailed properties of which are now under study. The mesons give the information on the type of interactions taking place in hot quark-gluon and hadronic media. They are also important for understanding the particle production mechanism in both the pp and heavy ion collisions. A detailed systematic of meson spectra is always important ingredient to get the hadronic decay backgrounds underneath photon, single lepton and dileptonic signals of QGP. An important property known as mT scaling is used to obtain all mesonic spectra from a given meson spectrum. In this work, we test the mT scaling on wide range of measurements in p+p, d+Au and Au+Au systems at 200 GeV energy in center of mass. First, pion spectra are parameterized and then using mT scaling, we obtain the spectra of other light neutral mesons. The relative normalization of the mT scaled spectra is then fitted to the experimental data for all mesons. The agreement of the mT scaled and experimental data shapes are excellent. We obtain the relative normalization of pions with other mesons in pp, dAu and AuAu collisions. These numbers point to quantitative changes in the dynamics of the collisions in these systems.

Primary authors : Mr. KHANDAI, P. K. (BHU)

Co-authors : Dr. SHUKLA, Prashant (BARC) ; Dr. SINGH, Venktesh (BHU)

Presenter : Mr. KHANDAI, P. K. (BHU)

Session classification : --not yet classified--

Track classification : --not yet classified--

Type : --not specified--