The 6th international conference on particle physics and astrophysics



Contribution ID : 314 Type : Oral talk

Investigation of the correlation between mean transverse momentum and anisotropic flow at NICA energy range

Friday, 2 December 2022 19:30 (15)

One of the main tasks of heavy ion physics is to study the transport properties of the quark-gluon plasma (QGP) as a function of temperature and baryon chemical potential. For a precision extraction of the specific shear viscosity of the strongly interacted matter, the observables such as the variances of the event mean-transverse momentum, the square of anisotropic flow, and their correlation can be used. In our work we study the centrality dependence of the correlation between the average transverse momentum and the square of the anisotropic flow in Au+Au collisions in the different models at NICA energy range.

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Session Classification: Heavy Ion Physics

Track Classification: Heavy ion physics