

Study of Di-hadron correlations of heavy ion collisions at NICA energies using maximum transverse momentum method

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Di-hadron angular correlations are a useful tool to study the mechanisms of particle production by observing the angular separation ($\Delta\eta$, $\Delta\phi$) between pairs of particles in an event. Different structures in the $\Delta\eta - \Delta\phi$ space are caused by various modes of particle production and interactions between particles shortly after production. Examining these structures can give us insight into the nature of these interactions. One of these structures is called “the Ridge”

The Ridge-effect phenomenon was first reported in the STAR collaboration at RHIC as decomposition of the distribution of interacting particles into jet and flow components.

The ridge effect can be characterized by the values of azimuthal and pseudorapidity differences $\Delta\eta \times \Delta\phi$ for fitted transverse impulse intervals for both trigger and associated particles. The study of the ridge effect with method of maximum transverse momentum, which is a global characteristic of the entire event, makes it possible to more clearly describe the jet and stream components on the distribution map.

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