

Comparison of methods for elliptic anisotropic flow measurements at NICA energies $\sqrt{s_{NN}}=4-11$ GeV

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The goal of the MPD experiment at NICA collider is to explore the QCD phase diagram of strongly interacting matter produced in nucleus-nucleus collisions at $\sqrt{s_{NN}}=4-11$ GeV in the region of high net baryon chemical potential and moderate temperatures. The anisotropic collective flow is one of the key observables sensitive both to the transport properties and equation of state of such matter. MPD performance for elliptic flow measurements is studied with Monte-Carlo simulations of Au+Au and Bi+Bi collisions using UrQMD and SMASH heavy-ion event generators. Different methods for flow measurements: event plane and Q-cumulants are applied for the investigation of the contribution of non-flow correlations and flow fluctuations.

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