

Systematics of reaction plane determination with the MPD experiment.

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Studying the equation of state of strongly interacting matter is one of the main goals of the Multi Purpose Detector (MPD) experiment at the future NICA facility. Among the important observables in this study is final state momentum anisotropy relative to collision symmetry plane described with anisotropic transverse flow coefficients. This work addresses the systematics of participant and spectator symmetry plane estimation using different methods and subsystems of the MPD experiment and taking into account effects of azimuthal acceptance non-uniformity. The study is based on Monte Carlo simulations of MPD detector response to the particles resulting from Bi+Bi collisions at $\sqrt{s_{NN}}=9.2$ GeV produced with the DCM-QGSM-SMM event generator. The latter is characterized by realistic yields of spectator fragments allowing to obtain signals in Forward Hadron Calorimeters (FHCAL) close to those expected in the real data.

The speaker is a student or young scientist

Yes

Section

1. Intermediate and high energies, heavy ion collisions

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