

Methods for centrality determination in heavy-ion collisions with the MPD experiment

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Centrality is an important concept in the study of strongly interacting matter created in a heavy-ion collision whose evolution depends on its initial geometry. Experimentally collisions can be characterized by the measured multiplicities or energy of produced particles or spectator fragments. Relation between collision geometry and experimentally measured multiplicities is commonly evaluated within the Monte-Carlo Glauber approach.

We will present methods for centrality determination in heavy-ion collisions with the Multi Purpose Detector (MPD) experiment at the future Nuclotron-based Ion Collider fAcility (NICA). The multiplicity of charged hadrons is provided by the MPD Time Projection Chamber (TPC) and connected to collision geometry parameters using the Monte-Carlo Glauber model. The energy of spectator fragments is estimated with the MPD Forward Hadron Calorimeter (FHCAL). We will also touch possibilities to determine centrality using the FHCAL and Monte-Carlo Glauber model.

The speaker is a student or young scientist

Yes

Section

1. Intermediate and high energies, heavy ion collisions

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