

Flow performance in MPD at NICA

Tuesday, 11 October 2016 16:25 (20)

The Nuclotron-based Ion Collider fAcility (NICA) in Dubna, Russia is currently under construction at the Joint Institute for Nuclear Research (JINR). A Multi Purpose Detector (MPD) at NICA is designed to study properties of baryonic dense matter in the range of center of mass collision energy from 4 to 11 GeV. We present a performance study for anisotropic transverse flow measurement in Au+Au collisions using the UrQMD event generator and Geant4 simulation of the MPD response. The collision symmetry plane is estimated from event-by-event transverse energy distribution in Forward Hadron Calorimeters (FHCals). Performance of the MPD for a measurement of the directed (v_1) and elliptic (v_2) flow of identified charged hadrons is evaluated based on comparison between reconstructed v_1 and v_2 values and the input one from the UrQMD model.

Primary author(s) : Mr. SVINTSOV, Ilya (NRNU MEPHI)

Co-author(s) : Dr. TARANENKO, Arkadiy (MEPhI); Dr. SELYUZHENKOV, Ilya (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE)); Mr. PARFENOV, Peter (NRNU MEPHI)

Presenter(s) : Mr. SVINTSOV, Ilya (NRNU MEPHI)

Session Classification : Heavy Ion Student Session - 2

Track Classification : Nuclear physics and particle physics