

The identification capability of the Inner Tracking System for the detection of D-mesons at the NICA/MPD

Wednesday, 22 September 2021 15:30 (25 minutes)

The yields of charmed particles are the important observables sensitive to critical phenomena in QCD-matter at high baryon density. Highly efficient registration of such short-lived products of nuclear interactions using the Inner Tracking System (ITS) of Multi-Purpose Detector (MPD) based on Monolithic Active Pixel Sensors will play a key role in the charm production analysis.

The identification capability of the ITS has been studied during the Monte Carlo simulation, when reconstructing the decays of D^0 , D^+ and D_s^+ , produced in central Au+Au collisions at NICA energies. Results of D-meson reconstruction using Kalman Filter and Vector Finder tracking methods are compared.

The reported study was supported by RFBR research project No. 18-02-40119 and No. 18-02-40075

Primary authors: Dr MALTSEV, Nicolai (Saint-Petersburg State University); Prof. KONDRATEV, Valerii (Saint-Petersburg State University); Dr MURIN, Yuri (Joint Institute for Nuclear Research)

Presenter: Dr MALTSEV, Nicolai (Saint-Petersburg State University)

Session Classification: Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics

Track Classification: Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics.