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Reconstruction and analysis of ECal performance in the simulation of MpdRoot

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As an important detector spectrum for the Nuclotron-based Ion Collider fAcility(NICA) accelerator complex at JINR, the MultiPurpose Detector(MPD) is proposed to investigate the hot and dense baryonic matter in heavy-ion collisions over a wide range of atomic masses, from Au+Au collisions at a centre-of-mass energy of $\sqrt{s_{nn}} = 11\text{GeV}$ (for Au^{79+}) to proton-proton collisions with $\sqrt{s_{pp}} = 20\text{GeV}$.

The performance of the MPD is simulated using MpdRoot based on the FairRoot framework. Considering the physics motivation of the MPD experiment, π^0 is a very important probe to give informations of the chiral symmetry restoration, flow signal and so on. So the performance of the electromagnetic calorimeter(ECAL) is reconstructed and studied, the ECAL is the main detector to measure the spatial position and energy of electrons and photon. The reconstruction of π^0 is carried on and the characteristics of the two-photon from π^0 decay is simulated and analyzed.

Consider for promotion

No

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