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Electron beam test of the MPD electromagnetic calorimeter on the «Pakhra» synchrotron

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The high-granularity electromagnetic calorimeter (ECal) of the Multi-Purpose Detector (MPD) at heavy-ion NICA collider is designed to measure precisely the spatial position and energy of photons and electrons in the case of high density of the secondary particles from heavy-ion collisions. These requirements can be achieved by a high segmentation of the calorimeter within projective geometry. Each calorimeter cell has a sampling structure from alternating layers of 1.5 mm plastic scintillator and 0.3 mm lead. The calibration measurements were realized at the beginning of 2020 on the electron beam of S-25P synchrotron «Pakhra» of the Lebedev Physics Institute. An assembly of three calorimeter modules (48 cells) was tested using electrons with energies from 30 to 300 MeV. The experimental results in comparison with simulated data are presented and discussed.
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