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Reconstruction of cosmic muon tracks inside the half-sector of the ECal MPD/NICA to align the tower responses

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The electromagnetic calorimeter ECal of the MPD/NICA multipurpose detector is a modular cylindrical system consisting of 50 half-sectors and containing 38400 towers of the "shashlik" type. The main task of ECal is to determine the energy parameters of photons and electrons. To do this, it is necessary to align the tower responses and energy calibration. As a preliminary alignment of the responses of the calorimeter elements, it is assumed to use alignment on cosmic muons. To get it, tracks should be reconstructed inside each half-sector. In this work, the track reconstruction algorithm used are discussed, which receives an array of reconstructed hits of the interaction of cosmic muons with the detector as input.

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