The research program of the BM@N (Baryonic Matter at Nuclotron) experiment is aimed at studying the formation of (multi) strange hyperons and searching for hypernuclei in nuclear-nucleus collisions at beam ion energies up to 4.5 AGeV. These experiments will use a new forward hadron calorimeter with longitudinal and transverse segmentation (FHCal) to determine centrality in ion collisions.

**Hodoscope of nuclear fragments**

The presence of a beam hole in the calorimeter leads to a significant leakage of heavy fragments through this hole and, as a result, leads to a non-monotonic dependence of the released energy in the centrality on the ion in collisions. To solve this problem, it is proposed to use a hodoscope of nuclear fragments installed in the hole of the calorimeter, which will measure the charges of heavy fragments-spectators.

**Experimental setup**

To determine the amplitude parameters of the scintillator and quartz detectors of the hodoscope, setup consists of two detectors based on quartz and scintillator plates, respectively, was assembled. Light from the quartz plate was detected by two pairs of photodiodes, and in the scintillator plate by single photodiodes mounted on opposite ends of the plate.

In a quartz plate detector, each pair of photodiodes was connected in parallel, so that the supply voltage and signal readout was the same for both photodiodes. Signals from each pair of photodiodes were sent to fast amplifiers placed near the detector on a single support frame made of Plexiglas.

The assembled detector was tested on a test electron beam with an energy of 300 MeV of the Pakhra synchrotron.

**Conclusion**

Test of two (quartz and scintillator) prototype detectors were done at electron beam. Light yield and its inhomogeneity are satisfactory to determine the charges of fragments in ion collisions.

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