Contribution ID: **358** Type: **Oral report**

Focal plane detector system of the MAVR spectrometer

The modern development of experimental technology makes it possible to create facilities and carry out measurements using the method of labeled atoms (registration of each event). This is especially important when working both on primary beams of heavy ions and on beams of radioactive nuclei. For this reason, it is advisable to use precision position-sensitive detectors that allow extracting maximum information about the characteristics of the beam itself, as well as about the products of their reactions. In this regard, preference is given to the creation of wide-aperture multivariate facilities. One of such installations is the multi-detector system of a high-resolution magnetic analyzer (MAVR, FLNR, JINR), which allows registering and identifying the products of nuclear reactions by charge Q, atomic number Z and mass A with an accuracy of one by mass and charge.

The detector is located in the focal plane of the spectrometer and consists of two modules. First one is an ionization chamber with a Frisch grid, a segmented anode and two single-wire proportional position counters. Second one is a scintillation unit for registering long-range particles located directly behind the ionization chamber. A detailed description of the ionization chamber is given in [2]

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Session Classification: Section 3. Modern nuclear physics methods and technologies

Track Classification: Section 3. Modern nuclear physics methods and technologies.