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Method for recording low-energy transitions that occur during the decay of superheavy elements in the focal plane of a magnetic spectrometer (MAVR)

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At the MAVR installation In the focal plane, it is supposed to measure the correlation of alpha particles in coincidence with the cold core of the super-heavy element residue. The focal plane allows simultaneous detection of alpha particles with a certain energy in coincidence with the cold core residue, which are focused in different places of the focal plane, but at the same magnetic field value.It is assumed that the heavy residue remains unexcited and has a low energy of the order of ˜ 30 MeV. The core of the residue is ejected in the forward direction along with the alpha particles. The report will present the possibility of registering alpha particles with a certain energy when they coincide with the cold core residue in the gas-filled version of the MAVR installation. To implement this task, the assembly of position-sensitive strip Si-detectors and semiconductor CdZnTe detectors will be used. A special feature of the proposed method is the registration of low-energy transitions resulting from the decays of superheavy elements.

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