

DATA PROCESSING IN THE TIME-OF-FLIGHT MASS-SPECTROMETRY OF HEAVY IONS

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Experimental studies of the rare multibody decays of the low excited heavy nuclei carried out in our group [1] require specific methods: registration of the pairs of fission fragments with a short follow-up interval; detailed analysis of the shapes of the spectrometer signals related to the events of interest caused the formation of short detector signals; use of fast multichannel digitizers such as flash-ADC DT5742. Data processing algorithms are an integral part of the experimental technique. Two of these algorithms that provide respectively energy and time spectrometry of heavy ions using PIN diodes are considered in this report. The algorithms were tested recently in the special experiment at the beam of the IC-100 accelerator, FLNR, JINR.

1. D.V.Kamanin, Yu.V.Pyatkov, "Clusters in Nuclei - Vol.3" ed. by C.Beck, Lecture Notes in Physics 875, pp.183-246 (2013).