# METHOD OF DIRECT MEASUREMENT OF THE CAPTURE NEUTRON CROSS SECTION FOR RADIOACTIVE NUCLEI

**Yu. G. Schepkin, V. I. Slisenko, V. M. Shevel**

Method of direct measurement of the capture neutron cross section for radioactive nuclei on the base of the multiplicity spectrometry of the capture gamma radiation was realized by means of the 4π-multisection detector. The energy of gamma rays of the radioactive irradiation must not exceed not more 1 MeV. Capacity methods had been examined for the thermal neutron cross section measurement. Methods sensitivity on the minimum quantity of measuring sample with capture cross section 40 barns equal to 0,37 mg and maximum specific activity on the $^{137}Cs$ of the measuring sample is around $0{,}44 \cdot 10^{10}$ $Bq*g^{-1}$.

*Keywords*: neutron, radioactive capture, cross section, spectrometry, multiplicity, gamma-radiation, detector.