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NEW METHODOLOGICAL APPROACHES TO THE SIMULTANEOUS MEASUREMENT OF THE ^{90}Sr AND ^{137}Cs ACTIVITY IN ENVIRONMENTAL SAMPLES

Nonradiochemical method of measurement of ^{90}Sr and^{137}Cs activity in environmental samples is proposed. This method is based on spectrometrical investigation of electrons accompanied the decay of the ^{90}Sr and^{137}Cs. Accounting for the contribution to the total activity of the samples from the zones with the density of the contamination
1 - 5 Ku/km^2 the ^{40}K electrons allowed to improve the accuracy of the measurements for the samples of small rodents up to 15 - 20 % (the ratio of A (^{137}Cs)/A (^{90}Sr) was from 2 to 100), for samples of soil up to 10 - 15 % (the change of activity in these samples was ten thousand times). The results of the spectrometric measurements were confirmed by the traditional radiochemical research.

Keywords: strontium, cesium, spectrometrical measurements, electrons.