**Ìàëîãàáàðèòíûé ñöèíòèëëÿöèîííûé ãàììà-ñïåêòðîìåòð äëÿ àíàëèçà ïèùåâûõ ïðîäóêòîâ è ñòðîèòåëüíûõ ìàòåðèàëîâ**

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Аннотация. Ðàçðàáîòàí ìàëîãàáàðèòíûé ñöèíòèëëÿöèîííûé ãàììà-ñïåêòðîìåòð (ÌÑÃÑ) äëÿ àíàëèçà ïèùåâûõ ïðîäóêòîâ è ñòðîèòåëüíûõ ìàòåðèàëîâ íà íàëè÷èå ïðèðîäíûõ è òåõíîãåííûõ ðàäèîíóêëèäîâ. Ìàññà ñïåêòðîìåòðà ñ çàùèòîé íå ïðåâûøàåò 12 êã. Áëîê äåòåêòèðîâàíèÿ ñîçäàí íà îñíîâå êðèñòàëëà NaI(Tl) 2525 ìì ñ ðàçðåøåíèåì 10 % ïî ëèíèè 662 êýÂ. Äëÿ ðàñ÷åòà àêòèâíîñòåé ðàäèîíóêëèäîâ ïðèìåíåí ìîäèôèöèðîâàííûé ìåòîä ðåãðåññèîííîãî àíàëèçà, ïîçâîëÿþùèé ïðîâîäèòü öèôðîâóþ êîððåêöèþ â ñëó÷àå ñäâèãà ñïåêòðà. Ìèíèìàëüíàÿ èçìåðÿåìàÿ àêòèâíîñòü ñïåêòðîìåòðà çà âðåìÿ èçìåðåíèÿ 1 ÷àñ äëÿ Cs-137 è K-40 ñîñòàâëÿåò 17,7 è 230 Áê ñîîòâåòñòâåííî, ÷òî ïîçâîëÿåò åãî èñïîëüçîâàòü äëÿ àíàëèçà áîëüøèíñòâà ïèùåâûõ ïðîäóêòîâ è âñåõ êëàññîâ ñòðîèòåëüíûõ ìàòåðèàëîâ. Ñïåêòðîìåòð ÌÑÃÑ ìîæåò áûòü èñïîëüçîâàí â ëàáîðàòîðèÿõ ñàíèòàðíî-ýïèäåìèîëîãè÷åñêîé è âåòåðèíàðíîé ìåäèöèíû, íàó÷íûõ è ó÷åáíûõ ëàáîðàòîðèÿõ.

Êëþ÷åâûå ñëîâà: ãàììà-ñïåêòðîìåòð, ãàììà-ðàäèîíóêëèäû, öåçèé-137.

**Compact Scintillation Gamma Spectrometr for the Ànalysis of Food ànd Building Materials**

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Abstract. A compact scintillation gamma spectrometer (CSGS) for the analysis of food and building materials for the presence of natural and man-made radionuclides is developed. The mass of lead shielding of CSGS does not exceed 12 kg. The block detection is based on the crystal NaI(Tl) 2525 mm with a resolution of 10 % for the 662 keV. To calculate the activity of the radionuclide is used the modified method of regression analysis, allowing carrying out digital offset correction spectrum. The minimal measureable activity of the spectrometer, for the measurement time 1 hour for Cs-137 and K-40 is 17.7 and 230 Bq, respectively, which allows its use for analysis of the majority of food products, and all classes of building materials. CSGS can be used in the sanitary-epidemiological and veterinary medicine laboratories, research and educational laboratories.

Key words: gamma-spectrometr, gamma-radionuclides, cesium-137.