

APPLICATION OF SRI2(EU) CRYSTAL IN PROBLEMS OF GAMMA-RADIATION SPECTROMETRY

Wednesday, 13 July 2022 11:10 (20 minutes)

APPLICATION OF SRI2(EU) CRYSTAL IN PROBLEMS OF GAMMA-RADIATION SPECTROMETRY

D. I. Komar, I. A. Lagutskiy, A. V. Antonov, V. I. Antonov

ATOMTEX SPE, Minsk, Belarus

E-mail: info@atomtex.by

According to the requirements of international standards, the energy resolution of spectrometric equipment for radiation monitoring systems should be less than 4.5%. The Rosenergoatom standard STO 1.1.1.01.001.0875-2017 requires a spectrometric detection unit with a resolution of not above 4.5% for ^{137}Cs radionuclide to be used at the radiation monitoring station ASCRO. Also, the ANSI N42.34-2015 standard introduces a requirement for the energy resolution of the spectrometric channel of radionuclide composition identifiers to be no more than 4%.

ATOMTEX SPE has developed a spectrometric detection unit based on the $\text{SrI}_2(\text{Eu})$ scintillation detector with dimensions $\text{Ø}38 \times 38$ mm. According to the results of the spectrometric studies of the detection unit, the typical resolution was 3.3% for the 662 keV line of the ^{137}Cs radionuclide.

To minimize the influence of external factors on the characteristics of the spectrometric path, classical LED stabilization is used. To correct superimposed pulses from the ADC, pulse superposition rejection is used.

The speaker is a student or young scientist

No

Section

1. Nuclear technology and methods in medicine, radioecology

Primary author: KOMAR, Damian

Presenter: KOMAR, Damian

Session Classification: Poster session