

ON THE INFLUENCE OF MATRIX'S HETEROGENEITY ON UNCERTAINTY OF GAMMA-SPECTROMETRY AT ACTIVITY ASSAY OF RADIOACTIVE WASTE

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The influence of the waste matrix heterogeneity on the flux density value of initial gamma quanta at the transport of quanta in the matrix was considered. It is shown that the waste heterogeneity leads to the positive shift of the average flux density value comparing with corresponding value for homogeneous waste if average value of the attenuation factor in heterogeneous matrix is equal to the attenuation factor of homogeneous matrix. Due to this the activity assay of heterogeneous waste by a technique which was calibrated by using a homogeneous standard (surrogate container) the measurement results will be positively shifted, or, in other words, conservative estimation of the waste activity will be obtained.

Keywords: radioactive waste, activity assay, gamma-spectrometry.