UNCERTAINTY OF ACTIVITY MEASUREMENT OF HETEROGENEOUSLY CONTAMINATED SOIL SAMPLES

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The problems of reliable determination of activity of ^{137}Cs, ^{90}Sr, ^{239,240}Pu and activity ratio ^{137}Cs/^{90}Sr in the soil samples containing the hot particles are considered. It is shown that the soil samples have volumetric heterogeneity of contamination, which can not be eliminated by their homogenization. Distribution of the possible values of the sample specific activity is described by the lognormal regularity. It is proposed the method for calculation of a minimal necessary number of the soil samples for the estimation of median of the measured value at the fixed relative uncertainty.