

Vol. 10 (1): 77-80 (2020)

DETERMINATION OF LONG-LIFE RADIOCESIUM ^{137}Cs IN SOIL BY GAMMA SPECTROMETRY IN THE WESTERN LOWLAND OF ALBANIA

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Received November 2019; Accepted December 2019; Published January 2020;

DOI: <https://doi.org/10.31407/ijeess10.111>

ABSTRACT

A screening campaign on determination of artificial radioactivity concentration has been realized for the 41 soil samples collected at the Western Lowland of Albania. In this study the long life radiocesium ^{137}Cs activity concentration was measured by means of gamma-ray spectrometry with a HPGe detector. The calculated activity concentration values have been found to vary from $0.22 \pm 0.03 \text{ Bq kg}^{-1}$ to $24.21 \pm 1.46 \text{ Bq kg}^{-1}$. The results have been compared with average concentrations of other countries of region found in literature. The results from this monitoring campaign are important for the human radiation exposure and provide the useful information for assessing future effects due to external factors such as human activities.

Keywords: artificial radioactivity, gamma-ray spectrometry, radiocesium, soil, monitoring