# Radionuclides content of the rocks of Teleti anticline and Mamadaviti anticline in the territory of Tbilisi city

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It was studied distribution of natural and technogenic radionuclides in some rock samples selected in the territory of Tbilisi city in Teleti anticline and Mamadaviti anticline. 72 rock samples were selected in this region (among them samples of sedimentary, volcanic-sedimentary, volcanic and metamorphic rocks).

By results of the gamma-spectroscopy analysis up to 22 radionuclides were identified in rock samples, in particular: Th-232 family – Ac-228, Th-228, Ra-224, Pb-212, Bi-212, Tl-208 (in total 6 radionuclides); U-238 family – Th-234, Pa-234, Th-230, Ra-226, Pb-214, Bi-214, Pb-210 (in total 7 radionuclides); U-235 family – U-235, Th-231, Th-227, Ra-223, Rn-219, Pb-211 (in total 6 radionuclides); other natural radionuclides – Be-7, K-40, and also technogenic radionuclide Cs-137.

The main features and regularities of samples radioactivity were established, in particular:

- activity ratio U-238/U-235 corresponds to the value of 21.7 (accepted for natural objects); for ratio U-238/Th-232 deviations (more than ±10%) from the average value of 0.81 (for the closed systems) were observed towards increase as well as towards decrease; the similar picture took place for ratios Ra-226/U-238 and Pb-210/Ra-226 where deviations from equilibrium value (1.0) were observed both in the greater way, and in the smaller way;
- radionuclide Be-7 was measured in one sample, and in several sample was detected in trace quantities;
- activity of radionuclides of families and radionuclide K-40 ranged in various samples more than 50 times – from 43.8 up to 2079 Bq/kg;
- technogenic radionuclide Cs-137 was measured in insignificant quantities in 10 samples and was detected in trace quantities in several samples.

Some features were marked in distribution of activity depending on genesis and type of samples. The analysis of the received results and their some features, and also comparison with reference data was carried out.

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