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# Public effective dose assessment using gross alpha and beta radioactivity levels of drinking water in Albania

The presence of radionuclides in water poses potential risk for health effects, especially when these radionuclides are deposited in human body through drinking. To assesspublic effective dose due to gross alpha and beta in water, 56 tap water samples were collected from different areas in the different cities of Albania. According to Albanian legislation, Article 6, the gross alpha/beta radioactivity concentration in water, should be below the level of 0.1 Bq/L and 1 Bq/L respectively for human consumption.
The instrumentation used to count the gross α and gross β activities was an α/β counter of the Ultra-Low Level α/β Counter, MPC 9604, Protean Instrument Corporation, multiple detector type with 4 sample. The activity concentrations vary in the interval 0.011 ± 0.002 Bq/l to 0.092 ± 0.012 Bq/l for gross α and 0.090 ± 0.009 Bq/l to 0.643 ± 0.067 Bq/l for gross β in drinking water. The public effective dose assessment showed values of dose to ingestion of alpha and beta emitter radionuclides lower then the recommended value of dose for drinking water 0.1 mSv/y. For all samples the gross β activity is always higher than the gross α activity.
Keywords: Effective dose, Gross alpha beta radioactivity, Water sample, Gas proportional counters

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