

MEASUREMENT OF NATURAL RADIOACTIVITY BY GAMMA SPECTROMETRY PRESENT IN ENVIRONMENTAL SAMPLES

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ABSTRACT. The natural radioactivity is omnipresent everywhere in the Earth's crust. The ground is not composed solely of organic and inorganic matter, but also radio nuclide like uranium, thorium, radium and potassium-40. These elements occur in nature as complex oxides, carbonates, phosphates, sulfates and silicates. The concentration of natural radioactive elements depends on the type of soil. The technique used to measure the low activity of natural radioactive elements is the gamma spectrometry with a hyper pure germanium detector (HPGe). This technique is best suited for the identification and quantification of different radionuclide in a sample. In this work, we present the results of measurement of specific activity in a set of samples taken from different sites in Southern Algeria: Sand MRAR, and Adrar. The results show that radioactivity in the phosphate and the three samples are comparable to what is usually measured in the same samples worldwide and that this radioactivity does in no way a health risk to the public. Some long-term adverse effects can be avoided by simple precautionary measure.