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# Radiological characterization of radioactivity around nuclear facilities

Summary. The main objective of this work is to characterize the different compartments of the environment, by considering samples of air, soil and fresh water, in order to protect the environment and the public from the harmful effects of ionizing radiation, and to control the reference level of natural and artificial radioactivity . Soil samples were taken in various undisturbed areas of the Draria Nuclear Research Centre (CRND). Air samples were collected using high flow air sampling pumps. Water samples were taken from various locations by GPS. samples collected and packaged are analysed by direct counting by gamma spectrometry in a reference laboratory. The results obtained clearly show that the level of radioactivity measured remains stable with a normal level of natural radionuclides in soil samples. As for artificial radioactivity, it is represented by traces of 137Cs in the soil, probably resulting from nuclear tests since 1945, and/or the Chernobyl accident.
This characterization strengthens and upgrades the real-time environmental monitoring system.

Keywords: Radioactivity, 137Cs, Air, Soil, water, gamma spectrometry.

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