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of Anthropogenic Radionuclides detected by the International Monitoring System in the West African Sahelian band

The Sahel is that band of Africa laying between 12°N and 20°N with a semi-arid region separating the Sahara desert from the Sudanian tropical savanna. The Comprehensive Nuclear-Test-Ban Treaty (CTBT) bans any testing of nuclear explosive devices which is carried out underground, in the atmosphere and underwater. Two main technologies, radionuclide and seismo-acoustic monitoring, are deployed in the International Monitoring System (IMS) used for the verification of the CTBT. In this work, we considered the activity concentrations of some anthropogenic radionuclides (Cs-137 and Cs-134) detected in the IMS from January 2024 to December 2024. The main objective is to determine the activity concentrations of anthropogenic radionuclides, classify the IMS (radionuclide) according to the radioelement mapping and establish radioactivity levels in the IMS (NEP48 and MRP43).

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