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Health risk assessment of natural occurring radionuclides in shore sediment collected from Ovambo beach, Walvis Bay, Namibia

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The activity concentration of primordial radionuclides such as 238U, 232Th and 40K were determined in shore sediment samples in the Ovambo beach of Walvis bay, Namibia. The activity concentrations were carried out by gamma spectrometry. The average activity measurements were found to range from BDL –276.39 Bq.kg - 1 with a mean of 142.79 Bq.kg –1 for 238U, BDL –40.80 Bq.kg –1 with a mean of 29.69 Bq.kg –1 for 232Th and 319.26 –516.45 Bq.kg –1 with a mean of 359.78 Bq.kg –1 40K. The concentrations were converted to assess radiological risks where the values of effective dose, radium equivalent activity, hazard index, excess life cancer risk were evaluated. The assessed values were found to be higher than the maximum allowed levels. Therefore, there is human radiological health risk envisaged along the Ovambo beach.
Keywords
Shore sediment, Radioactivity, Gamma spectrometry, Ovambo beach, Walvis Bay,

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