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Frequency Distribution of Specific Activities and Radiological Hazard Assessment in Surface Beach Sand Samples Collected from Bangsaen beach in Chonburi Province, Thailand

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The specific activities of natural radionuclides (^{40}K , ^{226}Ra and ^{232}Th) in 50 surface beach sand samples collected from Bangsaen beach in Chonburi province in the eastern region of Thailand, were measured and evaluated. Experimental results were obtained by using a high-purity germanium (HPGe) detector and gamma spectrometry analysis system in the special laboratory at Thailand Institute of Nuclear Technology (Public Organization). The IAEA-SOIL-375 reference material was used to analyze the concentration of ^{40}K , ^{226}Ra and ^{232}Th in all samples. It was found that the specific activities of ^{40}K , ^{226}Ra and ^{232}Th were ranged from 510.85 - 771.35, 8.17 - 17.06 and 4.25 - 15.68 Bq/kg. Furthermore, frequency distribution of the specific activities were studied, analyzed and found to be the asymmetrical distribution by using a statistical computer program. Moreover, four radiological hazard indices for the investigated area were also calculated by using the median values of specific activities of ^{40}K , ^{226}Ra and ^{232}Th . The results were also compared with the Office of Atoms for Peace (OAP) annual report data, Thailand and global radioactivity measurement and evaluations.

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