



Contribution ID: 333

Type: Poster

Measurement and Analysis of Specific Activities of Radionuclide ^{40}K , ^{226}Ra and ^{232}Th in Beach Sand Samples from Talo kapo beach Yaring District in Pattani Province using Gamma Ray Spectrometry

Wednesday, 24 May 2017 15:45 (15 minutes)

The Specific Activities of ^{40}K , ^{226}Ra and ^{232}Th were determined for 30 beach sand samples collected from Talo kapo beach Yaring District in Pattani Province. Experimental results were obtained by using a high-purity germanium (HPGe) detector and gamma spectrometry analysis system. Gamma ray radioactive standard sources ^{137}Cs and ^{60}Co were used to calibrate the measurement system. The IAEA-SOIL-6 reference materials obtained from the International Atomic Energy Agency were also used to analyze and compute the ^{40}K , ^{226}Ra and ^{232}Th specific activity in all 30 beach sand samples, respectively. The measuring time of each sample is 10,000 seconds. It was found that specific activity ranges from 1805.37 – 3,323.05 Bq/kg for ^{40}K , 40.96 – 2,137.36 Bq/kg for ^{226}Ra and 38.63 – 4,329.28 Bq/kg for ^{232}Th with mean values of $2,242.79 \pm 117.40$ Bq/kg, 250.18 ± 8.21 Bq/kg and 458.42 ± 7.68 Bq/kg respectively. Moreover, the results were compared with research data in the south of Thailand, the Office of Atoms for Peace (OAP) annual report data and the recommended values which were proposed by United Nations Scientific Committee on the Effects of Atomic Radiation (UNSEAR, 1988, 1993, 2000)

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Session Classification: Poster Presentation I

Track Classification: Plasma and Ion Physics, Nuclear and Radiation Physics