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Determination of natural radioactivity concentration in consumed nuts and seeds and their implications in the human body

Amal Hussain Alghamdi
King AbdulAziz University, Saudi Arabia

The concentrations of natural radioactivity of 226Ra, 232Th and 40K were measured in nuts and seeds samples consumed in Saudi Arabia. A high-resolution HPGe detector was used for the natural radionuclides measurement. The results indicate that 40K was detected in all samples, whereas 226R and 232Th were found only in Brazil nut sample.The average concentration of 40K in the investigated samples was 363.82 Bq kg^{-1}. The estimated annual effective dose due to ingestion of nuts and seeds was 0.068 $mSvy^{-1}$ lower than the annual dose limit of 1 mSv y^{-1} for public exposure. This indicates that no risk is expected by the intake of the studied nuts and seeds samples. The radionuclide concentrations were compared with those reported from different countries.

Biography

Amal Hussain Alghamdi has completed her PhD in Nuclear Physics from King Abdulaziz University and postdoctoral studies from the same University. She has published a lot of papers in reputed journals.

aalgamdi5@kau.edu.sa

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