ENVIRONMENTAL MONITORING OF SURFACE DEPOSITS USING SPECTRAL GAMMA RAY DATA OF WEST FARAFRA AREA, WESTERN DESERT, EGYPT

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Annual effective dose (mSv y-1) were calculated from spectral gamma-ray data. The effective dose values in the study area under the recommended limit.

West Farafra region is particularly important for establishing new integrated urban communities. It is characterized by its flat area covered with slopes of limestone and Sandstone limestone and sandstone rocks. Moreover, the new discoveries of groundwater in huge quantities suitable for agriculture and human activities in this region. Airborne gamma-ray spectrometer is using for geological mapping and detecting the radioactive anomalies [1]. The public expose to the radiation emitted from terrestrial radionuclides. The results of this study are presented.

Annual effective dose (mSv y^{-1}) were calculated from spectral gamma-ray data. The effective dose values in the study area ranging from 0.08 to 1.325 (mSv y^{-1}) with an average value of 0.616 (mSv y^{-1}). The low standard variation 0.226 (mSv y^{-1}) indicates that the values are distributed homogeneously and about 90% of the values are less than the recommended limit 1 (mSv y^{-1}) that it is recommended by UNSCEAR, 2000, so the studied area is a suitable to urban activities.

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