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Estimation of Radon Concentration in soil samples and the effective dose rate using SSNDTs in Al-Kebla district of Basrah Governorate

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Abstract

Measurement of radon gas concentrations, area and mass exhalation rate, and effective dose were made for a number of 82 samples of soil taken from selected area in Basrah Governorate (Al-Kebla) in Iraq.In this study; can technique containing LR-115 type II, track detector has been used to estimate the radon concentrations emanated from soil samples. The average value of radon concentration was1067±117 Bq m^{-3} and radium concentration was 6.70±1.02 Bq kg^{-1}. While area and mass radon exhalation rate found to be 0.849±0.099 Bq m^{2} h^{-1}, 0.017±0.002 Bq $kg^{-1}h^{-1}$ respectively. All results were found to be acceptable and well below the permissible levels recommended by ICRP.

Keywords: Radon, Exhalation rate, LR-115 type II, Can technique, Soil.