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INDOOR RADON LEVELS AND THE ASSOCIATED EFFECTIVE DOSE RATE DETERMINATION AT THE SHATT-ALARAB DISTRACT IN THE BASRAH GOVERNORATE, IRAQ

ISA JASEM AL-KHALIFA & HUSSAM NEJAM AOOD

Department of Physics, College of Education for Pure Sciences, University of Basrah, Basrah, Iraq

ABSTRACT

Study of indoor radon has been carried out in some dwellings of shatt alarab distract in Basrah Governorate, using LR-115 type II solid state nuclear track detectors (SSNTDs). The monitoring of radon has become a global phenomenon due to its health hazard effects on population. Lung cancer risk depends upon the concentration of radon and their decay products in air above recommendation level. In the present study the value of concentration of radon ranges from 19.7 to 195.2 Bqm^{-3} with an average value of 75.1 Bqm^{-3}. The Potential of Alpha Energy Concentration (PAEC) in terms of m WL ranges from 2.1 to 21.1 with an average value of 8.1. The annual exposure in terms of WLM ranges from 0.09 to 0.87 with an average value of 0.3. The annual effective dose ranges from 0.34 - 3.37 $mSv.y^{-1}$ with an average value of 1.3 $mSv.y^{-1}$.

KEYWORDS: Indoor Radon, Annual Effective Dose, LR-115 Type II Detector, Radon Concentration, PAEC