

ESTIMATION OF RADON CONCENTRATION IN SCHOOLS AND WORKPLACES IN TIRANA, ALBANIA

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Abstract

Measurements of indoor radon concentration have been carried out using passive bare detectors based on CR -39, in 12 schools and 12 workplaces in Tirana. The measurement of passive detectors was performed also in the Centre of Applied Nuclear Physics, Tirana. Exposure in schools and the workplaces is one of the main radon exposures for the general population after that in dwellings. These schools and workplaces are generally at the ground and /or first floor, where radon concentration is generally higher than at upper floors. These schools are attended by children, a population generally considered more sensitive to ionizing radiation although a few data are available for radon exposure. The exposure time of detectors is in the range 3-4 months, respectively (autumn – winter). Based on the results of the measurements, the minimum value of radon concentration found is 24 Bq/m³ and the maximum radon concentration is 405 Bq/m³ in schools and 53 to 237 Bq/m³ in workplaces, while the reference levels 200 – 400 Bq/m³ of UNSCEAR. For all results is calculated the effective dose due to the radon contribution (mSv/y).

Keywords: Radon, detectors CR-39, schools, workplaces monitoring.