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RADON INDOOR CASE-STUDIES OF TWO HOSPITAL BUILDINGS

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Abstract

The main aim of this work was to study as mode factors as geological context, seasonal variation, typology and characteristic of single closed environments play on gas radon indoor pollution. To this purpose were monitored two hospital buildings of two Calabrian villages (South Italy): San Marco Argentano and Lungro placed in two different geological contexts underlining a different radiometric trend. Indoor radon concentrations were measured using integrating passive alpha track-etch detectors CR-39 type (Solid-State Nuclear Tracks Detectors (SSNTDs)) with three different measurement periods: 3 months, six months, 1 year. The obtained results show an annual overall average radon concentration of 74.84 Bq/m^3 for the hospital building of San Marco Argentano and 28.83 Bq/m^3 for the hospital building of Lungro. Besides a study of effective dose equivalent has carried out, under normal living conditions. The obtained results are lower than annual normative limit radon indoor of 500Bq/m^3 and of effective dose equivalent 3 mSv/year (D.L 230/95, D. Lgs. n. 241/00).

Keywords: radon, CR-39, effective dose equivalent

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