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A study of the measurement of radon exhalation rates from floors and walls with different types of finishing

Exposure to radon is the most significant source of human irradiation due to natural sources. The worldwide average annual effective dose from natural sources is estimated to be 2.4mSv of which 1.3 mSv is due to exposure of radon. Major portion of this is due to inhalation of short lived decay products of the principle isotope 222 Rn in indoor air.

Randon in indoor air originates from emanation of this gas from walls, floor and ceilings which are constructed by building materials that contain minutes amonunts of 226Ra. Exhalation rate of radon into the building depends on many factors such as 226 Ra activity concentration, emanating power and diffusion coefficient of the buildign material.

This study reports the calculated radon exhalation rates from floors with different types of finishing using, Cr-39 plastic track detector. The exhalation rates ranged from 0.3-7.0mBqm-2 s-1. An attempt was also made to study the effectiveness of different kinds of wall finishing on reducing the radon exhalation rates from walls.