SEMINAR ANNOUNCEMENT

"State of the art on recent advances in radon measurements by passive technique"

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Wednesday, 28 September 2016, 11-12 PM, ROOM No. 2308

Radon, ^{222}Rn, is the only radioactive gas member in the middle part of the long radioactive series of ^{238}U. The hazards of inhaling radon come from its radioactive decay products, which trapped in the lung via inhalation. Consequently either deposit the associated energy in the surrounding tissues or transferred through the blood vessels to other organs, then produce different types of chromosomal aberrations which in turn increase the chance of cancer incidence. Passive technique based on Solid State Nuclear Track Detector is very important to incorporate the effect of seasonal, weather and environmental condition of radon emanation and its migration.

The following widely used configurations based on passive technique are discussed: **Diffusion Cup Technique** which is a passive radon radiometer used for radon concentration measurements. It must be calibrated for radon measurements. **Sealed Cup Technique** is supposed to be the most efficient method for the measurement of radon exhalation rate in different environmental samples. Exhalation designates the escape of radon from a material to the atmosphere. *T*he recent development of the sealed cup technique including the correction for leakage and back diffusion rates is discussed. **Can and Bare Technique** depends on using two plastic detectors, one is in Bare-mode configuration and the other is in Can-mode configuration. It is mainly used to determine the equilibrium factor between radon and its daughters.

To get acceptable accuracy in the effective dose from radon, the above mentioned techniques should be qualified and developed. Recent development and Quality assurance of these passive radon techniques are surveyed in this discussion.

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