



ID de Contribution: 88

Type: **Invited talk**

Radon measurements indoors, in soil and in water by track detectors and/or by Geiger-Muller counters

mardi 28 juin 2022 09:00 (30 minutes)

The large radon concentrations of the home's indoor air can be caused essentially by two sources, the soil or the water supply. A thorough investigation of the indoor radon may require the measurement of radon indoors, in soil, in water respectively. With existing technologies, these radon measurements require a variety of different devices and sampling procedures. Finally, a new generation of passive radon monitors has been developed, which makes it possible to obtain a multitude of different types of measurements indoors, in water, and in soil with a single compact device. This device can be referred to as a radon film-badge, which is formed by a radon-sorption plastic-film facing an alpha-particle detector, enclosed in a radon permeation-bag. This radon film badge makes it finally possible to use the same device for Rn-measurements indoors, in soil and in water for different exposure durations from a few days to one year.

In some cases, the Radon film-badge may also represent a sensitive neutron film-badge, i.e. the same badge can be successfully used for both neutron- and radon-measurements. Because of this coincidence, it is finally possible to explain the erratic response of some of the neutron film-badges in the presence of relatively large radon concentrations (Hofert, 1991).

In order to prove their unique characteristics, radon-badge applications are exemplified by using the same device for the measurement of very different radon concentrations, which may vary from a few tens of BQ/m³ of indoor radon to the extremely large radon concentrations, encountered in water wells and/or thermal SPA.

Ref: M. Hofert. A long-term study of personal neutron monitors I stray fields around high-energy proton accelerators. Radiat. Prot. Dosim. 37, 261-266 (1991).

Auteur principal: Dr TOMMASINO, Luigi (Italian National Agency of Environmental Protection Via Cassia, 1727, Roma, Italy)

Orateur: Dr TOMMASINO, Luigi (Italian National Agency of Environmental Protection Via Cassia, 1727, Roma, Italy)

Classification de Session: Environmental Monitoring for Radiation Protection