

Abstract

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Modifying the can-dimensions used to measure radon gas to prevent the effect of the plated-out effect

To determine the radon concentration, the Solid State Nuclear Track Detector (SSNTD) will be used in this work, where it has become an important tool in every investigation of the presence of radon gas. In this work LR-115 type II detector is used. This type of measurements of the radon concentration is called the can-technique. In this can the detector film registers the alpha disintegration from radon daughter (which plated-out on the inner wall of can) as well as from radon itself. Therefore the plated-out effect will contribute to the number of tracks giving overestimation in the radon concentration determination. Thus the shape of the cylindrical can is modified to spherical one by taking into account the volume has to be constant. Using the spherical can geometry, the track density per one day from Ra-226 source can be measured. Also the radon concentration from this source is determined using radon monitor. Then from these result, the calibration coefficient, K , is