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PILOT SURVEY OF INDOOR RADON IN REPUBLIC OF MACEDONIA USING RETROSPECTIVE METHOD

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A dedicated research since 2001 has revealed that any home stored CD/DVD can serve as a retrospective radon detector. As a part of an international collaboration, indoor radon was measured in 18 towns of Republic of Macedonia using the retrospective method of home stored CDs/DVDs. In the period September - November 2012 totally 67 CDs from ground floors of 54 randomly selected dwellings were collected. In order to investigate the reproducibility of the results, in 13 dwellings a couple of disks were analyzed. The average disk occupancy (exposure time) was 12 years (range: 9-22 y). After collection of CDs, they were processed and analyzed in the Laboratory of Dosimetry and Radiation Protection at University of Sofia. The obtained mean ²²²Rn concentration ranged within 6 - 541 Bq m⁻³ with average 75 Bq m⁻³ and median 52 Bq m⁻³ (95% CI for the median: 38 - 63 Bq m⁻³). The distribution of the results was close to log-normal. The ²²²Rn concentrations measured in this survey were compared with the results, obtained in these towns within the National survey, performed in 2008-2009 using CR-39 track detectors. Both approaches for large scale surveys were compared in terms of organization, duration and potential for large scale application.

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