

SSS024-P03

Room:Convention Hall

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Radon measurement in a cave by a household use radon monitor II

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An increase of the radon in underground water at Nishinomiya City 1) and an increase of the radon in atmosphere 2) at the southern part of Hyogo Prefecture earthquake in 1995 were reported. We have started to measure the radon in air by a low cost radon monitor for predicting the possibility of the earthquake. We used a Radon Monitor of SUN NUCLEAR Corporation, Model 1028, and 1029 as a radon monitor. This monitor is effective for the radon measurement at several tens Bq/m³ level though it is not so sensitive to be able to measure the daily change of the radon concentration at several Bq/m³ in the atmosphere. This monitor is possible the sequential measurement at every hour for over one month by 9V Li battery. However, there is possibility that the monitor will be broken because of humidity in caves. Then, we needed to measure radon in air with dehumidifying to 20~30% by a portable desiccator.

The calibration experiment has been done to examine the precision of this monitor at Ningyo-toge Environmental Engineering Center of Japan Atomic Energy Agency. Results, the 1st examination was initial radon concentration 1939±50Bq/m³, and 2nd examination was initial radon concentration 1918±33Bq/m³, were corresponding well. We had started to observe the radon in a cave of 56m in depth and 20m under ground in Okayama Prefecture as a place with higher level of radon concentration. We are continuously observing time variation of the radon in the cave over one year. Two tendencies where the radon concentration rose high after rainfall, and relatively higher in summer as seasonal variation, were obtained.

We start to observe the radon in atmosphere at our university in Okayama by a radon monitor of a PMT-TEL (Pylon Corporation). We will report time variations of the radon and ion in atmosphere, and their relationship.

References

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- 2) Yasuoka, Y. and Shinogi, M.: Anomaly in atmospheric radon concentration: a possible precursor of the 1995 Kobe, Japan, earthquake. *Health Physics*, 72, 759-761, 1997

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