

Study of Radon Exhalation Rate from Soil in Out-door Environment

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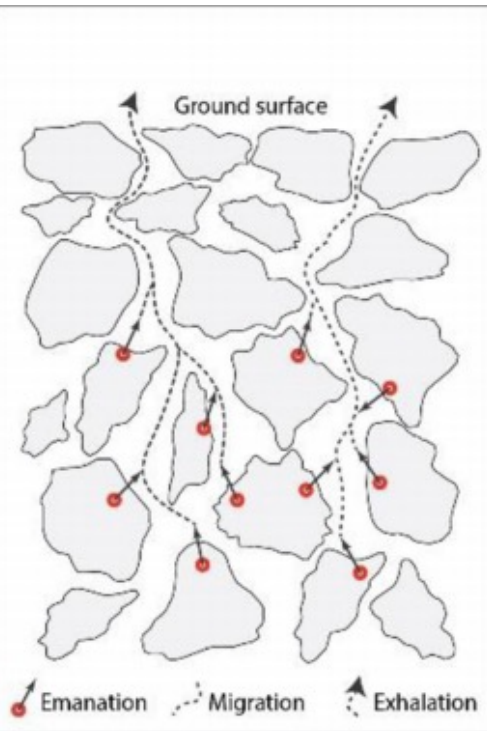
Research Background



- As important factor of lung cancer
- As decay product of U-238



Major source: Radium in soil



Meteorological factors



Radon Exhalation Rate



Soil Characteristics

Research Purpose

To clarify the factors affecting radon exhalation rate from soil including measurement method, soil characteristics, and meteorological parameters.

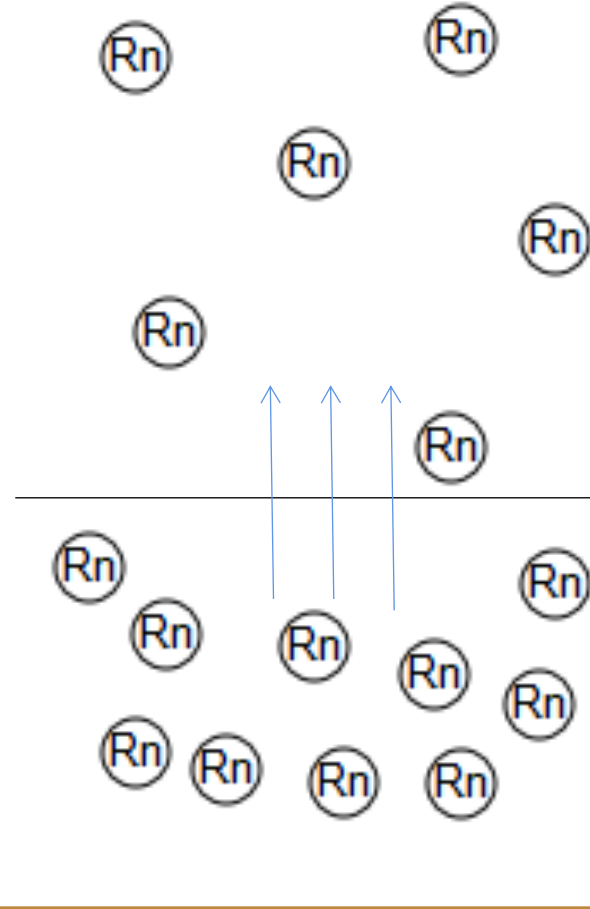
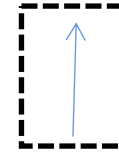
Potential Approaches to Public

- 1) Environmental monitoring and modelling of radon from soil
- 2) Environmental distribution and diffusion of radon through emanation, migration and exhalation
- 3) Disposal of radioactive(NORM) waste, to provide prospective environmental assessment of potential risk of repository, further provide proper protection which serve for the safely use of radioactive material and nuclear energy.

Fig.1 ²²²Rn emanation, migration, and exhalation [Source: Cujic,2020]

Research Aspects

Studying factors influencing

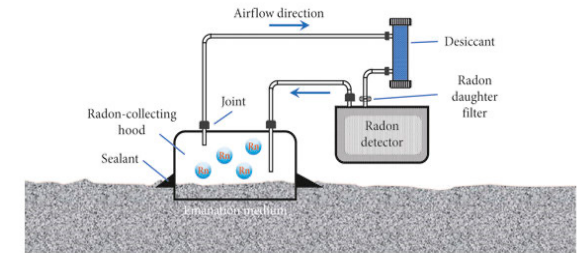


① **Air:** Humidity, Temperature, Pressure...

Accumulation Chamber

③ Measurement Technique

② **Soil:** Type, Water Content, Porosity...



-Develop the measurement technique with improvement of accuracy.

-Provide method to prospective radiological environmental assessment while siting the repository of radioactive waste to optimize the concepts of the system of radiological protection.