

Long term monitoring of indoor radon in the multistory building

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Radon gas is naturally-formed, colorless, odorless, almost chemically inert, and radioactive pollutant and it has been known as second major contributor to lung cancer. The dominant source of indoor radon was known as the soil gas which was emitted from the crack or pore of the wall on the ground. Most radon studies have focused on underground facilities and one-story buildings. However, in order to determine the source and transfer mechanism of the indoor radon for the multistory building, indoor radon variations were continuously monitored in the multistory building. Study area was the third floor of a newly built four-story building. The geology of the study area was Jurassic granite. Radon concentrations were monitored by the continuous measurements during 12 months by using the radon monitoring instrument (RAD7). The measuring protocol for the active method was 'sniff' which takes quick readings of radon concentration. The monitored radon concentrations were compared with indoor or outdoor temperature and humidity. As the result, the seasonal variations of the indoor radon in the multistory building were evaluated. The average radon concentrations deter-

mined by the active methods for the summer and winter seasons were 2.1 and 1.0 pCi/L, respectively. By the statistical analysis, positive correlations between indoor radon concentration and temperature difference between indoor and outdoor were noted, and it was found out that the outdoor humidity was also affected to the indoor radon concentration.

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