Radon Concentration Measurements in Secondary Schools, Surat Thani Province, Southern Thailand.
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Abstract: *We investigated the indoor radon concentration in secondary schools of Surat Thani province, Southern Thailand, using CR-39 alpha-track detectors in closed-cups. A total of 2 6 8 detectors were distributed in 26 schools of 19 districts. The detectors were placed in different locations inside the school buildings: classrooms, staff rooms, scientific laboratories and computer laboratories. The CR-39 detectors were exposed to radon in air for 60 days. After exposure, the alpha tracks were made visible by chemical etching and counted manually under an optical microscope. The indoor radon concentrations were found to vary in between a minimum of 2 Bq m -3 to a maximum of 167 Bq m -3. The minimum was found in a scientific laboratory located at the third, while the maximum was found in a computer laboratory at the ground floor. The overall geometric mean in surveyed area was 19 – 2 Bq m -3. Only for one sample (0.4%), the radon concentration (167 Bq m -3) was found to be higher than the action level recommended by the U.S. EPA (148 Bq m -3). Our results showed that the geometric mean radon concentration in the buildings built more than 20 years ago was higher than in buildings which were less than 20 years old. Moreover, the geometric mean in the ground floors was significantly higher than in the upper floors.*