

MEASUREMENT OF THORON-220 CONCENTRATION IN CONSTRUCTED BUILDINGS

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Thoron and radon are radioactive gases that can emerge from soil and building materials, and it can accumulate in indoor environments. A lot of studies on radon were conducted all over the world, but there have only been a few studies on thoron. According to recent studies, occupational exposure to thoron progeny became significant because high thoron concentrations were observed in some areas and the protection against thoron progeny inhalation should be considered in the near future ¹. Therefore, in this study a series of experiments were conducted to measure thoron concentration in different building constructed in Ekaterinburg, Russia. Thoron concentrations in the air from various building in Ekaterinburg were measured using an active method with Alpha radiometry, as showed in figure 1. The average thoron concentrations for all measured places were ranged from 0.01to 0.1 Bq m⁻³ with mean value 0.042Bqm⁻³.

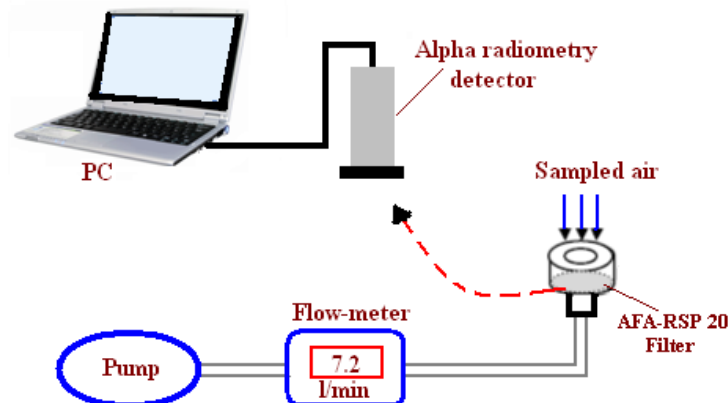


Fig. 1. Schematic diagram of measurement system

1. Alharbi and Akber, Journal of Environmental Radioactivity, 144, 69-76 (2015).