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### PAPER TITLE

Radon measurements in the environment

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### ABSTRACT (See instructions overleaf)

Radon is a natural radioactive gas. It is a chemically inert, highly radioactive daughter of uranium, thorium and actinium decay. A part of the radon formed in earth's crust (natural source) and in radioactive wastes storage sites (artificial source) can migrate to the atmosphere through cracks, fissures by transport mechanisms (diffusion, fluid convection). Thus, radon occurs naturally in every place and not in uranium mines only. It may pose a health risk for the population, because it is the first component of the average annual radiation exposure to the population.

For the past 10 years, we have been developing complementary techniques in the detection of radon and its decay products (proportional counter, silicon detector and solid state nuclear track detectors). A methodology has been developed to analyze the radon concentration in large and varied areas in using. This analysis is effected in time or in space. Thus, the measurements reveal the distribution of radon emanation and the range of variation. The method is used routinely for the following purposes: in homes in the aim of radioprotection, in geological applications for prospecting, studying the movement of the earth crust and analyzing the effect of alpha pollution in the environment.