ABSTRACT:

A several years ago a passive multi tracer gas method has been developed at the National Radiation Protection Institute (NRPI). The method is based on use of a five perfluorocarbon tracer gases and GS chromatography. It allows to calculate both average air exchange rate in homes and inter-zonal airflows between rooms or floors of multi-storey family houses in a sufficient dynamic range within a several months and with acceptable total uncertainty up to 30 %. Due to it’s a unique property to estimate also inter-zonal airflows the method can be also used in the radon diagnostics for tracing of a radon pathway into a house and for calculation average sum of radon entry into investigated volumes of the house. The NRPI multi-tracer gas method was successfully compared with the PFT tracer gas method of the National Brookhaven Lab. NY U.S.A. in field of 10 different family houses and recently its chromatographic part has been accredited.

After introduction of the NRPI method alone its application in field from assessment of the average sum of radon entry rate point of view will be illustrated.