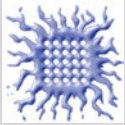


COMPARISON OF INDOOR RADON MEASUREMENT METHODS



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In order to assess the reliability of indoor radon measurement methods available in “Vinca” Institute of Nuclear Sciences, comparative measurement were conducted in four working rooms in Vinca Institute, two offices and two laboratory premises, in the period of October-November 2020.

Continuous radon measurements were performed with tree active measurement devices:

- ✓ RTM1688-2,
- ✓ Radon Scout (SARAD GmbH),
- ✓ RadonEye (RadonFTLAB).

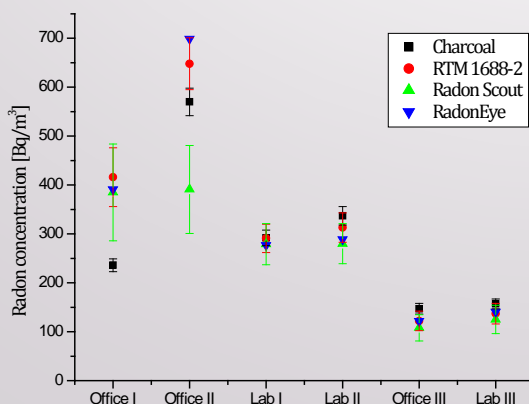
Integrated radon measurements were conducted with charcoal canisters.

In addition, Equilibrium Equivalent Radon Concentration EERC was measured with radon progeny monitor RPM2200 (SARAD GmbH).



Measurement by all active devices was performed simultaneously and lasted around 4 days with 1 hour sampling time, while measuring time for charcoal canisters was 2 days. In one office and one laboratory measurements were repeated and six sets of results were obtained.

	Charcoal		RTM1688-2		Radon Scout		RadonEye	EEC Rn
	average	std	average	std	average	std	average	average
Office I	236	13	416	60	385	99	391	261
Office I n	570	28	648	53	691	90	699	314
Lab I	292	16	291	29	279	42	277	166
Lab I n	337	19	313	30	280	41	289	120
Office II	147	11	122	20	108	27	122	51
Lab II	157	10	137	21	125	29	141	62



Very good agreement between results obtained by active devices was observed, with correlation ranging from 0.72 - 0.98. A certain discrepancy was observed between averaged radon concentration from active devices and results from charcoal canisters only in one office.