

RADON IN THE ATMOSPHERE IN TWO DIFFERENT LOCALITIES OF SLOVAKIA

Martin BULKO¹, Karol HOLÝ¹, Tereza MELICHEROVÁ², Anna POLÁŠKOVÁ¹, Ján ŠIMON¹,
Monika MULLEROVÁ¹, Oľga HOLÁ³

¹ Department of Nuclear Physics and Biophysics, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Mlynská dolina, 842 48 Bratislava, e-mail: bulko fmph.uniba.sk

² Slovak Hydrometeorological Institute, Bratislava

³ Faculty of Chemical and Food Technology of Slovak University of Technology, Radlinského 9, 812 37 Bratislava, Slovakia

ABSTRACT

Radon activity concentration in the atmosphere can vary more or less according to the locality of the measurement. In this paper there are compared radon activity concentration (RAC) and equilibrium equivalent concentration (EEC) obtained in two different localities of Slovakia (Bratislava and Jaslovské Bohunice, respectively). The localities are about 55 km apart from each other. Data analyses for 5 months of the year 2005 are presented. A surprisingly good agreement between the localities was found on the variations and mean values. These results imply that the turbulent mixing of air in the atmosphere of both localities is very similar. Various EEC/RAC ratios were found for different months, which might indicate a change in equilibrium factor F during the year. There was also found out that the mean daily courses observed in the two localities are slightly shifted apart. This is probably caused by different orography of the area where the measurement devices are installed and because of an earlier incidence of solar radiation on the measurement area in Jaslovské Bohunice.

Key words: radon, activity concentration, equilibrium equivalent concentration, comparison