

OUTDOOR RADON AS AN INDICATOR OF ATMOSPHERIC STABILITY

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ABSTRACT

This work deals with the potential use of radon as an indicator of atmospheric stability. Stability of the atmosphere is a parameter that can be used e.g. for quantitative assessment of pollutant dispersion in the ground layer of the atmosphere. A rather good agreement was found between the courses of radon activity concentration and stability indexes determined by modified Turner classification of atmospheric stability. The courses of radon concentration tend to lag behind the courses of stability indexes; this lag is of the order of hours. It can be caused by the fact that, unlike radon activity concentration in the ground layer of the atmosphere, the reaction of stability indexes to a change of meteorological parameters is immediate, because they are defined by table values. Several analyses presented in this paper also showed that there is a close connection between the time change of radon activity concentration and a time change of stability indexes. All in all, radon seems to be a good indicator of vertical mixing processes in the atmosphere, but further research on this issue is needed to confirm these results.

Key words: outdoor radon, atmospheric stability, stability index