
HODNOTENIE RADÓNOVÉHO RIZIKA MIKRODOZIMETRICKÝM PRÍSTUPOM

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ABSTRACT

Böhm R. & Holý K.: **The assessment of radon risk by microdosimetric approach**

In our paper we tried to estimate the radon risk by the application of a microdosimetric model. Into the used model the influence of the target cells proliferation time was included as well as the impact of the smoking habit on the geometry of bronchial airways. Microdosimetric models are very helpful and suitable for prediction of the radon risk for underground conditions, as well as for indoor radon risk evaluation and they are also able to take into account the influence of the smoking habit. The results of application of these procedures were compared with the conclusions of an epidemiological study conducted on the miners working. The value of excess relative risk for smokers is $ERR/WLM = 2.7 \cdot 10^{-3} WLM^{-1}$ and for nonsmokers $ERR/WLM = 9.5 \cdot 10^{-3} WLM^{-1}$, considering the underground medium. The Excess relative risk for the nonsmokers $ERR/(Ra \cdot m^{-3}) = 2.3 \cdot 10^{-3} Ra^{-1} m^3$