ID příspěvku: **2** Typ: **Poster**

Analysis of radon time series from the gallery of St. Anthony of Padua in Vyhne, Slovakia

středa 21. září 2022 9:58 (3 minuty)

The parameters driving the seasonal and short-term variations of radon concentration in the underground monitoring station are investigated within the frame of a bilateral mobility project „Radon in caves and mines - Portuguese and Slovak case studies (RADCAMIN)“, between INESC TEC, Porto and Earth Science Institute, Slovak Academy of Sciences. Radon monitoring was performed from October 2005 to April 2008 in the Tidal Station of Earth Science Institute of Slovak Academy of Sciences, situated at the horizontal gallery of St. Anthony of Padua (Central Slovakia). Radon signal was registered using Barasol alpha detector, Algade. Time series of radon activity are analyzed together with environmental parameters (air temperature and atmospheric pressure). The seasonal variation of radon in the gallery seems to be connected with the seasonal variation of atmospheric pressure, displaying a two-cycle/year pattern anti-correlated with pressure values. The short-term variation of radon is also anti-correlated with atmospheric pressure data with a time-lag of about 4 days.
This work was supported by the Agency APVV SK-PT-18-0015 and Agency VEGA No. 2/0015/21.

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Zařazení sekce: Radón a prírodné zdroje ionizujúceho žiarenia

Tematická klasifikace: Radón a prírodné zdroje ionizujúceho žiarenia