

On the geodynamic monitoring ability by radon emanations

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Abstract. During a long time, the crack opening displacement in ground floor ceiling beam of skeleton-type building on piles and lateral earth pressure between the piles is measured. At the same time radon and toron volumetric activity of the soil air sample in the basement and in the box containing soil fragment is measured. Two time intervals when crack opening displacement expand rapidly because of uneven supporting column subsidence are selected. Also, the anomalies of the radon volumetric activity from basement soil and parent matter fragment are observed. Tidal, cyclonic or technogenic deformations can be the cause of the observed phenomena. Time series analysis indicates that atmosphere parameter changeability – pressure, temperature and air moisture make difficult the possibility of the geodynamic monitoring based on the radon emanations. Influence of these factors on the measurable parameters still remains underdeterminable.

Keywords: monitoring, radon, toron, geodynamics, cyclonic processes, technogenic factors.