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VARIATIONS IN Rn and CO_2 SOIL GAS CONCENTRATIONS IN KARABAYIR (ESKISEHIR-TURKEY) and THEIR CORRELATIONS WITH EARTHQUAKES

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Variations in radon and CO_2 gas concentrations of soil relations to earthquakes take attention of many researchers. The aim of this study is to monitor changes in soil radon and CO_2 gas concentrations and to search possible anomalies originated from the seismicity in the vicinity of Eskisehir. Eskisehir is located between Aegean-Western Anatolian block where the extensional regime is present and the snistrial strike-slip fault zone, with a normal component, belonging to Central Anatolian Block on which the compressional forces are effective.

Radon and CO_2 gas concentrations in soil were daily measured for about 3 months in 2015. Meteorological parameters (barometric pressure, temperature, rain and humidity) and all soil gasdata were correlated with the seismicity occured in 17-110 km distance from the soil gas measurement location during the same period. According to the first results, generally concentrations of Rn and CO_2 began to decrease before earthquakes and CO_2 and radon concentrations are linear which means. CO_2 can be considered as acarrier gas for radon.

Keywords: radon, CO_2, Eskisehir, earthquake, soil