

# Abstract for GR-TR Conference on Statistical Mechanics and Dynamical Systems

Topic: Other

Preference: Poster

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## Environmental noise and nonlinearity in biological and physical systems

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Existence of natural and half-life radio-active sources on earth and their decay products in the environments such soil, rocks, building materials, food, water and air is basic reason for radiation that people exposed to. Due to the fact that these radio-active sources are disproportionate in the environment, and doses people exposed to as a result of inner and outer radio-activation largely differ in accordance with daily routines.

Radon is the only radio-active gas appearing as a result of uranium decay and existing in the nature. Because the source of Radon is uranium and uranium's disproportion in the nature, it is necessary to determine its average value in the soil. Annual concentration ratios determined by Turkish Atomic Energy Authority (TAEK) is  $400 \text{ Bq/m}^3$  at homes and  $1000 \text{ Bq/m}^3$  at workplaces on average in Turkey.

In this study, Radon gas was measured at salt cave located in the province, Cankırı. Sixty-six Radon detector (Cr-39) were placed in different points of the cave. These detectors were left at these places for approximately sixty days and analysed in an isolated Radon measurement laboratory in CNAEM at the end of that period. According to the results of the analyses, average Radon concentration activity was measured as  $201.68 \text{ Bq/m}^3$ .

As a consequence, it was observed that the results found are considerably below the values determined by TAEK.