



Multiple-factor spatio-temporal analysis of migration of seismic activity on the planetary scale

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While studying the distribution of Earth planetary seismicity, a group of factors, which have effect on the onset of the earthquakes, was examined. Among such factors are the following: geological (related to the Earth's tectonic development, to the border's of lithosphere plates location and), astrophysical (related to the influence of the celestial bodies), and distribution of geophysical fields (as variation in the direction and the value of the physical fields, gravitational anomaly and other), etc. This approach made possible to reveal spatio-temporal migration of seismic activity (as strong earthquakes) in certain traditional zones of high seismicity, such as on the border of lithosphere plates, at disruption of deep crust fractures and fault space, as well as in volcanic areas.

Seismic activity migration as distribution of strong earthquakes on the surface of the Earth was analyzed during five ten-year periods from 1963 to 2009. It was found out that for that period of time, by 2000-2009, the maximum N of the earthquakes had concentrated in the area S. Such migration may be explained by the fact that the geosphere is affected by internal geological processes, moving of the lithosphere plates.

Recent stirring up of the endogenous activity in this area could be explained by particularities of the Earth's geological structure (in accordance with the Earth's gravitation map) and by changes in the Earth's lithospheric stratum caused by other geospheres, such as hydro- and atmosphere, as well as by changing celestial bodies physical fields (gravitational and other) related to the dynamics of the oscillatory movement.