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Short Communication

The Egyptian Pyramids as the Geophysical Device-Properties and Opportunities

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Geophysical Fields of the Egyptian Pyramids

Till now complex geophysical researches of pyramids of Egypt were not carried out, therefore two expeditions to Egypt were held in 2004. Preliminary processing of observed materials has revealed new results, in part they have the basic character. We represent the received material as separate blocks.

Measurements and Elementary Researches of Geophysical Fields and Signals of some Pyramids of Egypt

Seismic, seismo-emissional and acoustic fields and signals

seismo- emissional fields were recorded at lateral sides of pyramids in Dakhshur ("Red" and "Broken") and in Medume ("Wrong"), for the last one-in the internal chamber also. Registration of seismic noise or their envelopes was conducted with one channel, and the other channel-the electromagnetic signal from the ferrite antenna (electromagnetic emission). The induced seismic emission was investigated under simultaneous recording of envelopes of seismic noise in Dakhshur at top of the small pyramid (near the "Broken") by two channels (it is anomalous high level). Research of other records have revealed more high-level seismic emission noise inside a pyramid in comparison with an external level, and also coincidence in time of changes of a signal from the ferrite antenna and seismic noise. Seismic speeds in blocks of pyramids, distance up to the high-speed base to pyramids of Giza plateau were determined. Other important results are the following: the case of abnormal high focusing of seismic pulse by a pyramid as the transformer of fluctuations; anisotropy of the seismic response of the pyramid massive depending on the direction of impact; prospective unknown cavities inside a pyramid (Medume); variations of the inclinations of pyramids with difficultly connected periodicity. The radiating background outside of and inside all investigated pyramids was measured, some features are found out. Some gas tests from pharaon`s chambers have abnormal deviations.

Seismic physics structural model of a pyramid

The received results of geophysical researches and necessity of their correct physical interpretation demand search of adequate model of a pyramid. This model should corresponds to most brightly shown observed effects: concentration or increase of intensity (amplitude of oscillatory displacement) seismic waves; abnormal high level of seismic acoustic emission (especially inside a pyramid) and to electromagnetic radiation accompanying acoustic emission. This model should explain also the found out spectral peaks on known geophysical (free oscillation of the Earth) and astrophysical (frequencies of a sending of radio impulses from pulsars) the periods. Near analogue, for example, laboratory and geophysical, natural and artificial, under the form reminding pyramids, concentrators of vibrations which were earlier offered (1971-1972) for search of gravitational waves by a seismic method. The model of the pyramid-concentrator of waves should take into account: a condition and structure of the environment of a pyramid and near day surface geological media under its basis (hundreds of meters, the first kilometers). Functionally and under the form among gravitational antennas and ultrasonic concentrators it is possible to allocate groups: step, con, two-cascade and more levels of the amplifications which are most closely appropriate to pyramids of Egypt. In view of above and difficulties of interpretation of the data and the block structure of pyramids we accept seismic physical model as the system with discrete-periodic structure. Such systems have the uniform device, suitable for the analysis of oscillatory processes and distributions of waves of a various physical nature (for example, equations of Matue, the Foccer-Plank and their modification).

Seismic noise of pyramid Snofru (Dashur): A space component

The generalized analysis of results of research of the seismic noise fields and signals of the Egyptian pyramids and adjoining geological structures make necessary attraction of modern physical representations. In particular, the adequate understanding information of seismic noise is impossible without introduction of concept of seismically active media adapted to conditions of pyramids. Constructive attributes of such media are known, in part they were observed under realization of our researches. Accordingly, we analyzed the seismic noise which has been recorded without detection of envelope as two separate blocks: at the spectral range of (0-6) Hz and at the range of (0-180) Hz. At the range of (0-6) Hz we considered all peaks and features of the geophysical media in details, and at (0-180) Hz – only one pick but with the most details. The both ranges were investigated as well by the method of the spectrum-time analysis. We took into account the existence of several types of seismically active media:

a) A seismo-acoustic emission field of a massive of pyramids;

b) seismo-acoustic emission field of the near media and first of all under a pyramid;

c) seismo-emission processes dealing with influence of active tectonic motions of region, lunar-solar tides etc.;

d) chaotic seismic wave field of region. For the low-frequency part of the spectrum comparison of parameters of seismic noise and groups of pulsars testifies to steady mutual conformity of their parameters and confirms the assumption of the contribution of space influence in low-frequency spectral peaks of noise of pyramid Snofru.

A high-frequency part of the spectrum: the peak in a vicinity 17 Hz was marked and earlier, but his dominant value is observed for the first time; besides there is a space source, pulsar PSR 1913+16 with period P=0.059 s with (16.95 Hz) which radiation also influences the geological media and a pyramid. This influence on amplitude concedes by many orders to known processes, but incommensurably is higher than stability of frequency. As the spectrum-time analysis has shown, incidentally there is a capture and synchronization seismic noise a signal in the strip of (16.5-17.2) Hz on frequency ~16.95 Hz, i.e. amplification of the weak signal of a space origin from pulsar PSR 1913+16 is due to the bad regional signal and a resonance of a pyramid. Other features of the spectrum, probably, are caused by existence of the powerful background of seismic emission both the pyramid, and the geological environment under a pyramid. The general features are the following:

a) Seismic noise of pyramid Snofru has the nonlinear nature, its structure has the increased sensitivity to external influences; various parts of the spectrum of seismic noise have inherent formation mechanisms according to their physical nature.

b) The low-frequency part of the spectrum reflects cooperative processes of influence and interaction of energy of seismic noise of actually pyramids and environments and external space influence of the majority of known pulsars.

c) Isolated peaks of more high-frequency part of the spectrum of seismic noise, first of all at the frequency of ~17 Hz, also are determined by several power mechanisms, and the analysis of such structure of peak has revealed influence of space radiation of pulsar PSR 1913+16 and industry noise components on f0/3 (f0 =50 Hz).

Opportunities

On the basis of the specified properties and geophysical features of pyramids we see the new applied and fundamental directions of their use. Now we consider the following offers dealing with problems at the various stage of their development and the analysis:

a. The short-term prognosis of earthquakes for the big Cairo.

b. The decision of geodynamic and structural problems, an internal structure of the Earth.

c. Creation of the generalized model seismic and acoustic emission; display of the law of P. Kjuri about a role of symmetry; circuits of management implosion streams.

d. Instrumental-methodical development of search of space influence on pyramids and adjoining structures.

e. Development of paleo-archeologic representation on researches of pyramids within the framework of model of numerous existences of the advanced society.

f. Creation of the new archeologic-geophysical methods of research of pyramids.

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