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The seasonal location of the core of the Earth — is an important geodynamic factor of the planet

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The scientific literature is not elaborate enough to consider the importance of the seasonal location of the core of the Earth as a factor of geodynamic processes [Greiner-Mai et al., 2003; Antonov, Kondratjev, 2004; Malyshkov Yu., Malyshkov S., 2009]. In our work we present a logical rational of the concept.

The first position. Newton's second law of the force of gravity states that there is a direct proportional relation to the mass of bodies and inversely proportional to the distance between them. Weight is calculated as the product of the specific body weight and its volume. The core of the Earth has a larger proportion (this fact is proved by numerous gravimetric studies) [http://uk.wikipedia.org/wiki/Geophysic].

It is known that the Earth's core consists of 90% iron while the mantle contains of only 10 % iron and a proportion of the other elements — oxygen, silicon and magnesium [Allegre et al., 1995].

Therefore, the force of gravity per unit volume of Earth's core is higher and the nucleus constantly presses the inside the mantle. Pressure is directed towards the Sun and as the Earth rotates the constantly changing area of highest pressure is inside the kernel.

So, the Earth's core is heavier, and in accordance with Newton's second law, more attracted to the sun. This is partly accounted for in the scientific literature.

The second position. The axis of the Earth is tilted 23 degrees to the ecliptic plane. Earth is facing the Sun at an angle, in the summer inside the nucleus at an angle of more pressure on the northern hemisphere, and in the winter — on the Southern.

Findings from the provisions of 1 and 2.

The core of the Earth not only rotates inside the planet, but also seasonally shifts to the Northern Hemisphere and then to the Southern, as shown in the picture (Figure).

In the presented picture (when the Earth is right) shows how the Earth's core is offset at an angle of 23 degrees in the direction of the Northern Hemisphere, when we have the summer season.

Inside — the pressure on the mantle. The picture also shows (when the Earth is on the left) as the core is offset at an angle to the Southern Hemisphere, when we have the winter season.

Such internal displacement of the Earth's core (as conventionally shown "on the cut") reaches its highest value in the following periods: December—January and June—July.

The pressure inside the kernel, its friction and seasonal shifts significantly affects:

- earthquakes and volcanoes,
- the movement of continents and the formation of mountain ranges,
- the formation of plumes, subduction, nutation, and other geodynamic processes.

During the summer, forming elevations in the Northern Hemisphere, are active volcanoes, earthquakes that occur in the projections of the nucleus and the more pressure field "breaks" of tectonic plates. Seasonal shift in the Earth's core could explain the gaps of tectonic plates and their movement.

During our winter season, shaped elevations in the Southern Hemisphere are active volcanoes, earthquakes occur in the relatively "weak" field. In the northern hemisphere, meanwhile, it may also occur from an earthquake, but the land, that "sinks", hence an understanding for the reasons for subduction.

Seasonal location of the core of the Earth is important geodynamic effects, as evidenced by the presence of zones of high tectonic activnosi on both sides of the equator. This increases the tectonic activity in the Southern Hemisphere in December—January, and in the Northern — in June and July.

The core of the Earth — it is almost a "perpetual motion" inside the planet until there is a structure of the Earth's axis and the trajectory of the Earth around the Sun.

This concept should be considered when creating a computer model of the Earth, a view of the seasonal movement of the nucleus, in order to better predict those processes that will occur inside and on the surface of our planet.

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Geoenergogenerated dynamic cataclysms as the launch mechanism of the origin and evolution of the terrestrial life

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The author proposes a new conception for the mechanism of the origin and evolution of the terrestrial life in the energetic Earth-Space interactions [Drozdovskaya, 2009]. This conception (named geoenergetic) has been developed in the process of the analysis of the Earth's biological and dynamical history from the viewpoint of the author-made studies of the geochemical evolution history [Drozdovskaya, 1990] that was carried out using geological, physical-chemical, geoecological and eniological methods.

The problem of the mechanism and time of the terrestrial life origin was solved in connection to the physical-chemical and geostructural specifics of the Early Proterozoic Krivoy Rog-type Jaspilite Formation (JFKT) termed in English as the Banded Iron Formation (BIF). BIF is considered as the unique geological phenomenon due to a number of specific features peculiar only to it. The main ones amongst them are *the single-act and geologically short time of the BIF's global origination in the range by isotopic data 24—2,2 billion years with accumulation in it about 90 % of iron ore reserves of the Earth's crust in simplified elemental form, predominantly iron-silicon-oxygen.*

The computer physical-chemical experiments demonstrated [Drozdovskaya, 1990] that BIF is a chemogenic-sedimentary product of geochemical