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Explanation of many natural phenomena by one cause

Abstract

This article shows how the external gravity force on the core of the planet leads to the appearance of the magnetic field (MF) of the planet. How this force provides acceptable conditions for the existence of life. Natural phenomena, which can easily be explained using the proposed mechanism of interaction of planets, such as earthquakes, mountain formation, ocean currents, tides, time jumps, changes in the duration of the day, periodic Solar activity are considered.

Keywords: gravity force, natural phenomena, magnetic field

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Introduction

A lot has been said about the role of the Magnetic Field (MF) of the planet in the life of humanity and nature, so we will not run past.

One of the most common hypotheses trying to explain the nature of the formation of the field - the theory of the "dynamo effect", suggests that convective and/ or turbulent movements of the conducting fluid in the body of the planet work towards self-excitation, creation and maintenance of the field in a steady state condition.

But in reality, it is not observed that thermal, electrically charged flows float in the same direction all the time - if it is a convective movement, or turbulence arising from rotation, was so constant to maintain the effect of self-excitation, and even in one direction. The nature of turbulence is not clear at all - over time, in the absence of external forces, the internal substance of the Earth will also rotate uniformly together with the shell due to viscosity effect. It also remains unclear where the potentials in these flows come from, why they are not compensated if the substance is electrically conductive. Why does this hypothesis not work on other planets, where the field is different with the same direction of rotation. It also does not explain the inversion of the field. The author of this theory (Braginsky) himself considered it far not proven.

In some hypotheses, "plumes", "jerks", "superchrons" appear, the mythical concept of "frozen-in field lines" that change their configuration in a fantastic way, which leads to the strengthening of the "magnetic embryo", or the rotation of the, for some reason, iron core leads to the appearance of a magnetic field, and it does not matter that it contradicts to the basic laws of physics.

The nature of a planet's magnetic field

Best of all, the Earth's MF, if magnetic anomalies are not taken into account, is interpreted as a magnetic field created by an electric current in a conductor, laid at the latitude of the equator, and located at some depth. At the same time, the current is directed from East to West.

Nature itself has given us the opportunity to find out the sources of the appearance and maintenance of MF of the planets. It placed them in different orbits, made them rotate in different directions, at different speeds, and added, or not, satellites of different sizes and different directions of movement to them. It remains only to analyze these data and, knowing the characteristics of the MF of the planets and assuming that the physics of MF should be the same for all planets, find the forces that create flows of charged particles (electric current), which, in turn, creates MF.

The option of a permanent magnet located in the body of the planet is not considered for known temperature reasons.

Note: It is to be recalled that an electric current is called the directional movement of charged particles. The movement of positive charges is taken as the direction of the current. The direction of the magnetic field lines created by this current is determined by the right-hand Ampere's rule.

I. The causes of the appearance of an electric-type dipole in the body of the planet

According to modern theories of the structure of the Earth[1] substances below the inner mantle are in liquid form (metallic phase) - high—temperature plasma - consisting of mobile electrons, positively charged ions and nuclei. Sometimes this state is called liquid metallic hydrogen.

The change in the properties of a substance with temperature and pressure increase is specified in the works of D. A. Kirzhnitsa[2] here is an excerpt from the article:

"With pressure or temperature increase, the substance acquires an increasingly universal structure, and its characteristics become increasingly smooth functions of the composition of the substance. This explicit tendency is due to the fact that because of an increase in the internal energy of a substance, a certain ordering and "simplification" of its structure becomes possible. With pressure or temperature increase molecules or molecular complexes are destroyed and the substance passes into a purely atomic state. The atomic envelopes are rearranged, acquiring more and more regular level occupation. At the same time, there is a separation of external electrons that determine the chemical individuality of the substance. Finally, if a substance remains in a solid state during compression and heating, then its crystal lattice is also ordered. Going through a series of structural transformations, it becomes more and more chemically pure and eventually acquires a single structure (body-centered cubic *) for all substances ".

Here I would like to note that the modern Earth model, with a solid core inside surrounded by a supernatant liquid, is based on the study of the behavior of acoustic (seismic) waves, their ability to travel differently in solid and liquid medium. With pressure and

temperature increase, a high-temperature plasma with a close packing of nuclei will conduct seismic waves as well as a solid (crystalline) substance, which does not contradict the measured data, and the accepted boundary of the solid core is the boundary of transition to the "crystalline" plasma state.

Thus, we have a substance in a state of high-temperature plasma (or close to it) inside the planet, characterized by the presence of mobile electrons, ions and nuclei deprived of their atomic envelopes, possessing ideal electrical conductivity, behaving like a liquid, but with acoustic conductivity like a crystal structure has.

II. The Causes of the appearance of an electric current in the body of the planet

Let's consider the nature of the excitation using the example of the Earth.

If we imagine the Earth as a ball filled with substances of various densities and specific weight, and the Sun as a source of the gravitational force that affects these substances, then it is obvious that heavier structures will "settle" to the closest envelope of the ball and the distribution of density and mass inside the Earth will be uneven not only by depth, but also in the direction of the Sun (Figure 1).

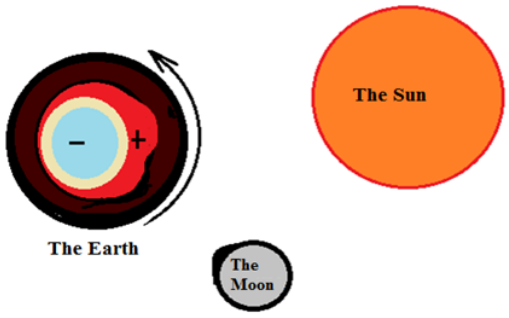


Figure 1 Distribution of masses and charges under the influence of the Sun and the Moon.

The nuclei and ions of substances are hundreds of times heavier than electrons, and the plasma, under the influence of external gravity forces, will split in density and they, positively charged, will fall into the "deposition". The separation inside the Earth's body will occur not only by mass, but also by electrical potential. The Earth's core will take the form of a dipole with a significantly displaced center of mass, where "+" and the main mass are closer to the Sun.

The heavy part of the Earth's core follows the Sun when the Earth rotates and thereby creates a directional motion of electrically charged particles and at the same time a circular, cyclic displacement of the center of the Earth mass relative to its envelope. This, of course, does not mean that there is a pure "+" on the one side inside the ball, and "-" on the other, then it would be impossible to have such a magnetic field when rotating dipole due to mutual compensation. The radii of motion are different and, in compliance, the lineal velocities, and, therefore, the potential currents are different too. There is some compensation from the movement of different charges, but "+" prevails.

This moving, polarized nuclei creates an alternating (pulsation) earth's magnetic field

Generated pulsation (for a point on the surface), with a period of 1 day, the magnetic field is supported by the paramagnetic behavior of the planet body, which smoothes and stabilizes its behavior. In this case, the planet body itself is magnetized.

Thus magnetized, the planetary mass creates the core (main) earth's magnetic field

It is obvious that the existing MF anomalies were formed at a different direction of movement of charged flows and, perhaps, at different speeds and potentials. The current field is not able to remagnetize them.

The behavior of the Earth's core, apart from the Sun, is also influenced by the Moon.

This mechanism for other planets will naturally be somewhat different due to differences in objects affecting the planet core: somewhere it may be the Sun, somewhere satellites, as well as the properties of the planet itself, but the physics of the phenomenon is the same.

One of the confirmations of this can be daily and annual variations in the direction of the magnetic field density, i.e. the dependence of the field on the position of the Earth relative to other objects of influence, which make adjustments to the separation by mass, charge and trajectory of the core. (There should not be such an influence in the case of the currently accepted hypothesis of a self-excited dynamo effect.)

It is often necessary to answer such a statement - "Coulomb forces are much greater than gravity forces, and they will not allow the latter to separate the element."

Here some confusion arises:

a) In the considered high-temperature plasma, mobile electrons are already separated from nuclei and ions due to temperature conditions and pressure.

b) The consideration involves not the gravity forces of two particles, but the huge gravity from the Sun acting on particles of different masses.

c) Coulomb forces of gravity assume interaction between differently charged particles, but not between volumes of differently charged particles, where they participate only in the boundary layer. The further away from the contact boundary, the repulsive forces of equally charged particles become more important.

A real-life example is thunderclouds, which have different potentials, and this is proved by lightning, but they do not seek to unite.

There was also such an argument in the discussions - satellites relative to their planets seem to be constantly falling, but they miss. And therefore all parts of the satellite have the same acceleration and cannot separate. If this is an artificial satellite flying in an orbit of about 500 km and it misses a sphere with a diameter of 12,000 km — how can you imagine it? If this is the Earth relative to the Sun and it is in free fall in its field, then where does the tidal gravity come from? And the fact that it presents and is taken from the Sun is a fact, observed and measured. And what is more - neither the satellite, nor the Earth, nor the Moon has increased their speed during their movement, but falling implies constant acceleration.

Sometimes critics claim that there are no such conditions inside the planet to create a "high-temperature plasma". But basically, there is no need to have them for ideal plasma; it is enough to have

conditions for the separation of some electrons and the formation of positive ions. It doesn't affect anything.

For example, the cathode temperature in an electric vacuum tube is only about 2000 degrees. And this is enough for the electron emission.

Additionally, for those who like to adjust everything to the formulas, it is necessary to repeat that the main MF is obtained as a manifestation of the magnetization of the Earth's body from the variable and thus it is not possible to find out what value the variable has. Only the main can be measured on the planet surface and it consists of effective, fixed, variable values that have ever been there. The variable field appears only as fluctuations of the main one.

MF has a very complex shape and attempts to fit it to any formula are a waste of time and absolute disregard for the reasons for the appearance of the field.

Seasonal variations of the trajectory of the core

In fact, the heavy part of the core moves from East to West and spirals North-South and back, when the position of the planet relative to the Sun changes (the time of year changes).

Consider the measurement results confirming this (Figure 2).

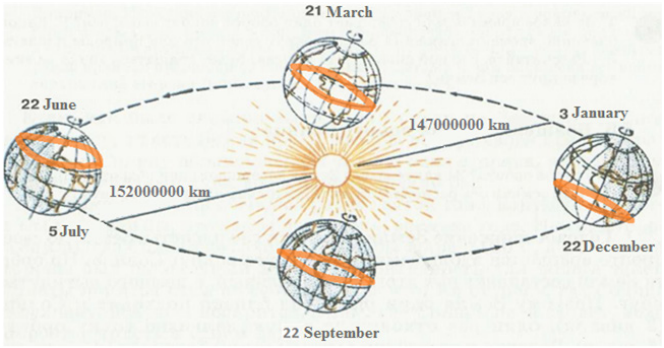


Figure 2 Seasonal shifts of the trajectory of the core.

a) Very interesting measured data were given by the staff of the "Institute of Monitoring of Climatic and Ecological Systems SB RAS" in the work[3]

Based on long-term studies of the natural pulse electromagnetic fields of the Earth (NPEMFE) in the seismically active areas of the Baikal region, they came to the conclusion about the movement of the planet's core and related natural phenomena seismic activity, effects on the human body, etc. These are truly remarkable works that continue, already at a more technological level, A. Chizhevsky`s research.[4]

The patterns of the intensity of changes in the NPEMFE at various points in time exactly repeat the movement of the heavy part of the dipole (Figure 3).

These graphs show how the intensity of EM field disturbances changes during the time of day and depending on the season. It can be seen how the intensity decreases significantly during the winter months and the maximum passes into the night, that is, when it is summer in the Southern hemisphere and the heavy part of the core is there, directly opposite the measurement site.

As it`s noted in this work, the area of thunderstorms also migrates during the year after the core of the planet, which can also be explained by the interaction of the charged core and atmospheric electricity, like a huge capacitor. This phenomenon deserves a separate study.

b) Consider the data of gravity measurements.

There are four main forces affecting the measuring sensor of the device the constant one is the gravity of the Earth's body, and the variables: the gravity from the Sun, the Moon and reversed gravity force from the core of the planet, the position and shape of which, in turn, depend on the position of the Sun and the Moon.

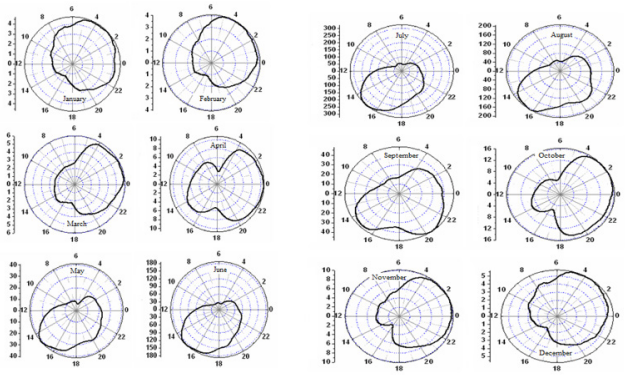


Figure 3 Averaged for 1997-2004 and smoothed daily variations of NPEMFE in polar coordinates.

Gravity graphs show very well the change in the trajectory of the core. If we imagine that there is no movement of the core, then in winter, when both the Sun and the Moon rise lowest above the horizon, the change in gravity forces should be the smallest in amplitude. But the measured values tell a different story (Figure 4).

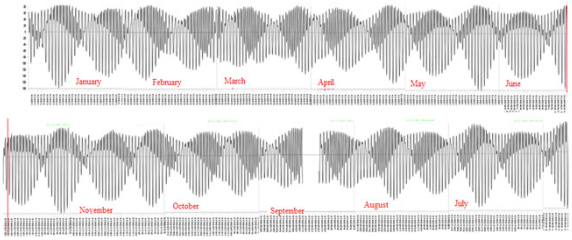


Figure 4 The behavior of gravity forces before June 22, 2013, and the mirror image after this date, the area of the coast of the Sea of Japan.

The almost perfect coincidence of the values before June 22 and the mirror image after, and the decrease in amplitude in the spring and autumn months are very clearly visible (Figure 5).

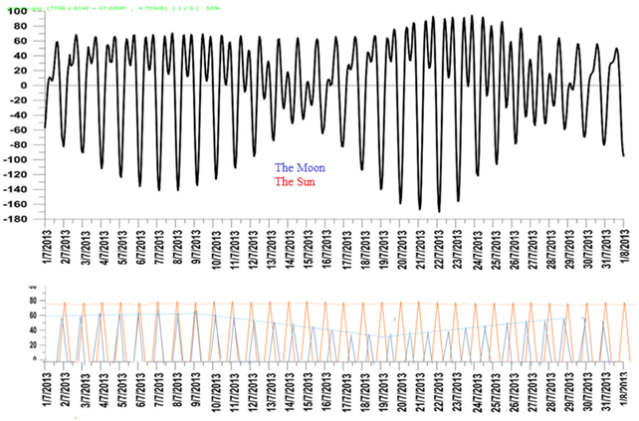


Figure 5 The behavior of gravity forces in July 2013, near the coast of the Sea of Japan. The lower graph is the position of the Sun and Moon above the horizon.

The lower graph is the position of the Sun and Moon above the horizon.

Let's see how the behavior of the forces of gravity changes in the summer month on the example of July. At the initial stage, when the phases of the Moon and the Sun coincide, the decrease in the forces of attraction to the Earth should be maximum, especially since the Moon rises high above the horizon and its movement almost coincides with the trajectory of the Sun. But it turns out to be less than with multiphase movement in the 20th of the month. This becomes clear if we imagine that with in-phase motion, they attract a much larger and more concentrated mass of the planet's core, acting on the sensor in the opposite direction.

In the 20th, the Moon "takes away" part of the core during the daytime closer to the opposite part of the Earth, reducing the gravity at the measurement point, and the Sun adds more. As a result, the forces sum, causing the maximum drop in the gravity forces.

In the winter month, the same maximum decrease occurs at nighttime, when both the Sun and the Moon affect the nucleus inphase and it goes not only to the opposite part, but also to the other hemisphere (Figure 6).

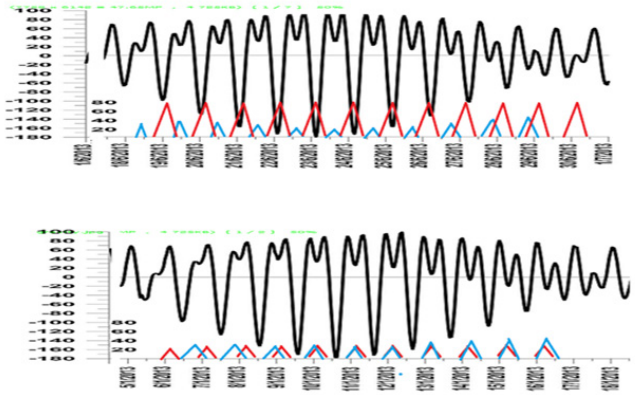


Figure 6 Comparison of the gravity forces in June and January 2013.

Comparison of magnetic fields of planets

Considering the above, the appearance of a magnetic field on other planets, with satellites or dynamic influence of the Sun and without them, becomes clear. For example, Venus does not have a field - there are no satellites and it rotates very slowly, once every 243 earth days on its own axis and every 225 around the Sun, i.e. if polarization is created inside it, then it is not mobile enough. Or the planet has cooled down and does not have a liquid inner core (the Moon). A change in the polarity of the magnetic field with a changed direction of rotation of the satellite (s) - (Mars) or the presence of a complex field with complex relationships of the planet with satellites - (Uranus, Neptune).

Interestingly, Mercury, which has no satellites, has a field similar that the Earth has, although much smaller, but it is itself a close satellite of the Sun and orbits the Sun quite quickly – in 89 earth days, although it rotates its own axis once every 59 days. Mercury's field is symmetrical and directed along the axis of rotation. The inclination of the equator relative to the orbital plane is only 0.1°. That is, the field appears not only due to its own rotation, like the Earth`s one, but also due to movement around the Sun. The rotation of Uranus is retrograded, as well as the rotation of the satellites. The orbits of the satellites are steeply inclined to the ecliptic plane. The plane of Uranus' equator is inclined to the plane of its orbit at an angle of 97.86° — that is, the planet rotates "lying on its side". If other planets can be compared to spinning tops, then Uranus is more like a rolling ball, Uranus has a very specific magnetic field that is not directed from the geometric center of the planet, and is tilted at 59 degrees relative to the axis of rotation. In fact, the magnetic dipole is shifted from the center of the planet to the southern pole by about 1/3 of the radius of the planet. This unusual geometry leads to a very asymmetric magnetic field. This polarity is opposite to the Earth's one.

A comparison of the fields of Jupiter and Earth can be a good indicator of the influence of motion trajectories on the shape of the field. Jupiter's field is more like a flat disk - most of its satellites rotate in regular circular orbits in the plane of the equator and the axis of rotation of the planet itself is slightly tilted, there is no change of seasons, and the Earth, which has a field shape similar to an apple, due to the changing influence of the Sun at different positions relative to it, caused by the tilt of the axis of rotation. This can be compared to fields from two different electromagnetic coils - wound coil to coil on a "tube", like a tape cassette.

11-year period of solar activity

Another pattern that was known to the Pulkovo scientist-astronomer Vitinsky Yu.I, but for some reason it was ignored, can be observed - this is the coincidence of the period of rotation of the largest planet in the solar system, Jupiter, with an 11-year period of Solar activity and the influence of this period on the number of formed "Sunspots". Jupiter exceeds the Earth by 1,320 times in volume and 317 times in mass, and its influence on the Sun exceeds the influence of all other planets taken together. It is only 1000 times smaller than the Sun.

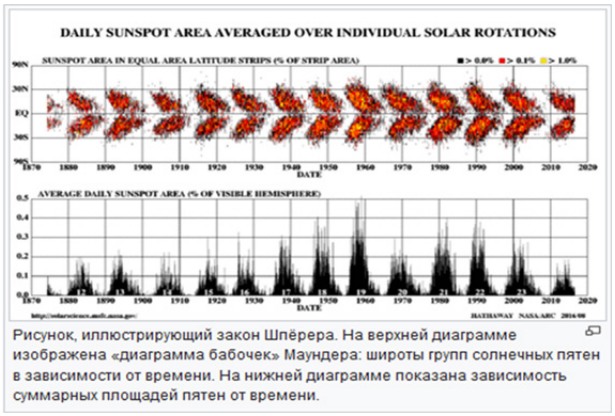
Here is what he writes about the history of solar activity research[5]

"In the middle of the last century, amateur astronomer G. Schwabe and R. Wolf established the fact of a change in the number of sunspots over time for the first time, and the average period of this change is 11 years... R. Wolf, convinced that solar periodicity is the fruit of the influence of the Solar planets on the Sun, initiated this search himself. ... Finally, one of the "heirs" of Wolf in Zurich, M. Waldmeier, dared to doubt the correctness of his "scientific great-grandfather" and transferred the cause of the 11-year cycle into the Sun itself already in the 40s of this century."

And: "Perhaps the most intriguing of all the questions that arise when studying the Sun can be formulated as follows: "Where does solar activity come from and how does it come down to those features that we talked about in this book?" If any intelligible answer could be given to this question, humanity could rightfully consider itself at least the master of its planet. Unfortunately, a unified theory of solar activity, which could give an answer to the question posed here quite fully and at least without obvious contradictions, has not yet been created. ...At first glance, it may seem that there is nothing to think about here: since the activity is solar, it means that it occurs in the Sun. But this is begun to think so quite recently. And it all started back in the middle of the last century with a hypothesis that was put forward by R. Wolf himself. According to this point of view, solar activity is caused by the Solar planets, more precisely, their tidal effect on the Sun. Such a hypothesis had some ground under it. After all, the period of Jupiter's rotation around the Sun (11.7 years) is incredibly close to the average cycle length of the solar activity (11.1 years), and the length and height of this cycle changes over time hardly chaotically".

Thus, the original version about an external source of influence on solar activity was changed to an internal one for some reason, but probably in vain.

If we imagine that this "heavy", following Jupiter, the Sun`s center, moves in subsurface space and at the same time it is a charged electrical potential, then this can lead to the appearance of "magnet tubes" on the surface - that is, to the exit points of both poles of local magnetic fields. Everyone probably watched how multidirectional purls are created from the paddle on quiet water (Figure 7).



Рисунок, иллюстрирующий закон Шпёрера. На верхней диаграмме изображена «диаграмма бабочек» Маундера: широты групп солнечных пятен в зависимости от времени. На нижней диаграмме показана зависимость суммарных площадей пятен от времени.

Figure 7 The figure from the internet.

The influence of Jupiter on the earth's biosphere

A.L. Chizhevsky unequivocally showed the direct dependence of the influence of solar activity on the Earth's biosphere in his long-term studies of these processes, suggesting that disturbances observed as "spots on the Sun" cause radiations that affect all living and inanimate, reaching the Earth's surface and penetrating into it[4]

Thus, Jupiter causes processes affecting the Earth because of its influence on the Sun. The proposed mechanism can help to explain the appearance of electromagnetic pulse (magnetic storms) in a wide frequency range, which appears as a result of abruptly changing flows of charged solar matter.

The reason for all periodic phenomena occurring on planets is most likely to be sought in their external environment, interaction with other planets - this is, by the way, the basis of astrology.

Any celestial body, being unaffected by other bodies, will strive to adopt such an arrangement of its constituent parts in which the interaction between them is minimal and the temperature is equal to the surrounding, i.e. to minimize entropy.

Even chemical and radioactive processes have an expiration date.

Only external influence can periodically bring the planet out of its steady balanced state.

Equatorial currents and tides

A similar phenomenon can be seen in planets with satellites – their dust rings are located opposite the trajectories of the satellites. If the land of the continents on the Earth`s surface interferes with the flow-through and makes the flows turn in the opposite direction along the peripheral sections, then the flows on other planets are looped. The "Red Spot" on Jupiter is very similar to an obstacle washed by a stream (Figure 8).

i. Modern (scientific) look at the causes of currents and tides

In the scientific literature, it is customary to explain the nature of equatorial currents by winds constantly blowing in the same direction, and the nature of winds by heating the surface and the Earth`s rotation. Sometimes the formation of currents is attributed to Corioli forces, without taking into account that these forces are not real, but conditional (fictitious), that are used for describing different linear speeds for unequally distant from the centre points at the radius, when the body rotates.

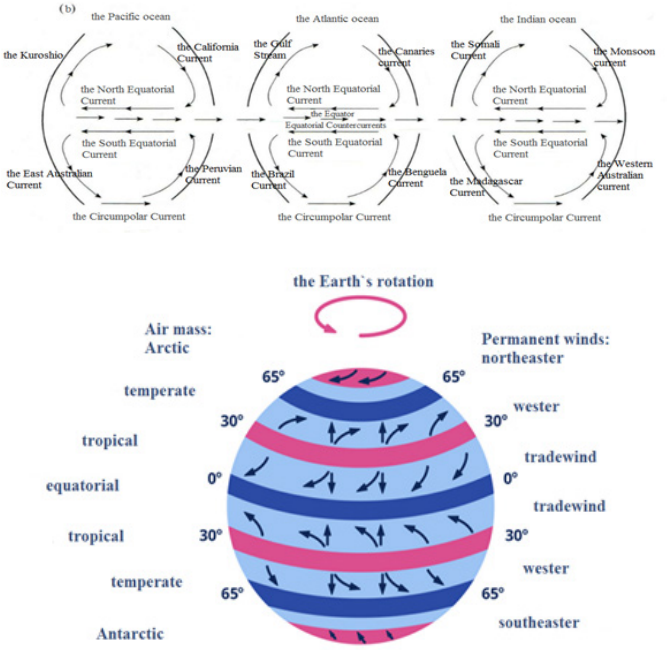


Figure 8 A current map and a conditional drawing showing the similarity of the structures of large-scale currents of the Pacific,Atlantic and Indian Oceans. Conditional drawing of equatorial winds.

Oceanic tides in modern scientific literature are considered as the rise of water due to attraction from the Sun and Moon, and at the same time there are constant attempts to lead to some kind of mathematics,[6] using correction factors and various models, considering that the Earth is a sort of body with its own oscillation frequency. At the same time, it is forgotten that any oscillations have a dead time, and considering issues last for many centuries. In fact, such a method is not better, but even worse, because of its complexity, than a simple statistical table, that is, a method that has long been successfully used in the practice of sailing, without identifying the main causes of tides.

The difference in the gravity forces in the even several kilometers interval (let's assume that it is the depth of the ocean) at a distance of 380000 km from the Moon, and 150000000 km from the Sun, cannot be so great that it causes the rush and movement of water. And this is under the condition that the entire mass of the Earth is nearby, which is much larger than the same Moon.

The emphasis on tidal forces caused by the influence of the Sun and Moon during the rotation of the Earth is made, for example, in the article,[7] where it is said that the moving "crest" of the mantle causes the movement of water (Discrete wave motion). But it is not taken into account that the crest moves at a depth, and the main flows of the current do not fall below 200 meters,[8] thus such a mechanism cannot work.

The affect of tidal forces directly on the ocean waters also cannot cause such a current for the reason that these forces affect the masses of water first from the East, and then just the same from the West. Even if they shift the mass of water first to one side, which is not possible, then they will return it back by as many.

ii. The real causes of currents, tides and winds

But there are also quite significant currents — movement speeds are measured from 30 to 150 cm / sec, [8] which means that there is also a force that causes them. Moreover, this force is centuries-old, of constant direction.

There are no external, observable forces. So there are internal ones.

It should be noted at once that there are two types of manifestation of these forces-

The tide (rise) of the mainland of the planet - this tide is difficult to notice without instruments.

The tide of water in the ocean - is well observed on the coast.

Let's imagine the Earth as a kind of ball, with a rather thin, relative to the total volume, shell (mantle), which can deform from the movement of the inner mass if it is attracted to the outer mass (the Sun, the Moon). Globally speaking, it can be compared with an air, inflated and, what is more, poured with water balloon. Water will cause deformation of the shell due to gravity, and this deformation will move around the circumference when the balloon rotates, - this is the analogue of the tide of the Earth`s solid part. But this is not the tide on the ocean!!. The tide at the shore on the water will be caused by water discharge from the point of maximum mantle rise to the shores. If, for example, you pour water into a plastic plate and press from below, then the water will overflow to the edges, shores. This fact is very clearly visible in Figure 9, when superposition graphs of the measured behavior of gravity forces, a graph of the water level and the positions of the Sun and Moon at one measurement point. And also in Figure 10, where the maximum tide rise just on ocean shores, is clearly visible.

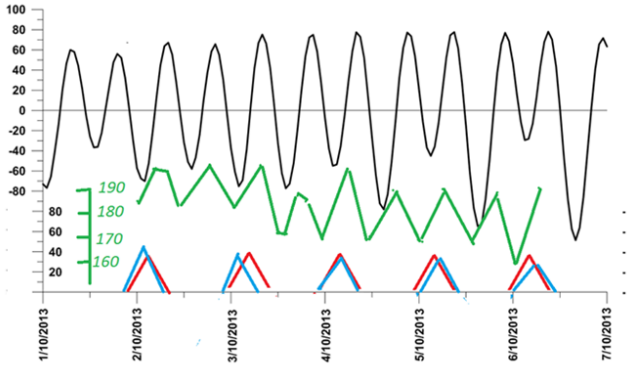


Figure 9 Measurement data the station "poset" of the pacific coast.

On the horizontal axis, Time is Universal.

The black line is the measured force of gravity. mcGal.

The red one is the position of the Sun above the horizon in degrees (time of sunrise, maximum position, sunset)

The blue line is the position of the Moon above the horizon in degrees (time of sunrise, maximum position, sunset)

The green line shows ocean water level in cm.

Time interval when the Sun and Moon are in the sky side by side and simultaneously affect the core of the Earth was specially selected.

Gravity forces measurement data were provided by employees of the gravimetry laboratory of the POI FEB RAS .

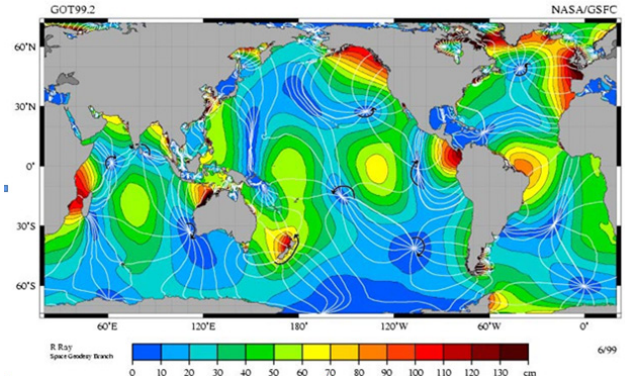


Figure 10 Cotidal lines.

Ocean level measurement data made at the Poset station were kindly provided by the staff.

The data of sunrise times, maximum position, sunset and ascending angle of the Sun and Moon are taken from the StarCalc program with reference to the station location.

It can be seen how a low tide and at the same time a decrease in the gravity force, i.e. the high tide of the solid part of the planet appears a couple of hours before the zenith point passing by the Sun and Moon. The outflow of water is also visible at night, when there is a mantle tide from the departure of the planet's core to the opposite part of the Earth.

It is this fact that explains not the coincidence of the high tides, but the coincidence of the low tides on the water, with the positions of the Sun and Moon at the zenith.

The "crest" on the mantle will change its position and size depending on:

a) time of year (tilt of the axis);

b) the distance of the Moon and the Sun from the Earth;

c) "outpahse", i.e. different positions of the Moon and the Sun between each other.

And the tide near the shore will not be constant, but will depend on these factors and the bottom relief.

Now let`s talk about the rise (tide) of the mantle on the opposite side of the globe.

Unfortunately, it is difficult to reveal this, as in the first case, but even here everything is quite simple. The mass of the planet's core shifted towards the Sun and Moon will weaken the gravity force on the opposite side of the ball in proportional to the square distance of the displacement. In the graph below, these will be the failures of gravity forces (black) during periods when there is neither the Sun nor the Moon above the measurement point. It is impossible to explain such a decrease in the gravity forces in any other way, since the gravimeter reacts only to the gravity force (mass).

When the Earth rotates, the "crest" will describe cyclic circular trajectories - this is the only observed movement in one direction, coinciding with the direction of movement of the main ocean current. [7]

The gravity force of the close to the water mass of the moving inner core of the planet will make the mass of water move in the same direction.

This is the reason for the main ocean current.

These same forces move the air masses, creating constant etesian winds

Unlike currents, these winds pass over the continents unhindered and close in a ring. Moreover, they reach the heights of the stratosphere, where there are no temperature differences from heating the surface. Only the gravity forces of the chains: the planet's core- the Sun and the core-the Moon.

Since the bulk of the core moves in the equatorial region, the waters near the equator are also set in motion.

Note: The cause of the backflow is not considered in this article due to the lack of measured data, and it is better not to give untested hypotheses.

Encountering continents in its path, this current diverges away from the equator and, since the basins of the oceans are practically closed, the water mostly moves about a closed path (Figure 8).

The change in the water level of the seas and oceans is only a manifestation of the change in the level of the solid surface of the planet. Water changes its level depending on the relief of the bottom and shore due to the flow properties. At the same time, the values of changes in the solid shell of the Earth depend on its structure and thickness. Mountain and mainland massifs with large deep parts will naturally be less affected than low, thinner, underwater areas. That is why the waters of the lakes practically do not change their level, because they are located on the body of massive continents and at the same time the bottom level of the entire reservoir changes slightly. There are amphidromic points (with no tides) and cotidal lines (lines on the map connecting all points where the crest of a tidal wave appears simultaneously, i.e. points where high water comes at the same time) on the plain of the oceans. If the tide had arisen only from the impact on the water, this could not have happened.

It is noticeable that in the zone where, according to modern theories, there should be a maximum influence (the equator zone), the level of oceanic tides, on the contrary, is minimal (Figure 11).

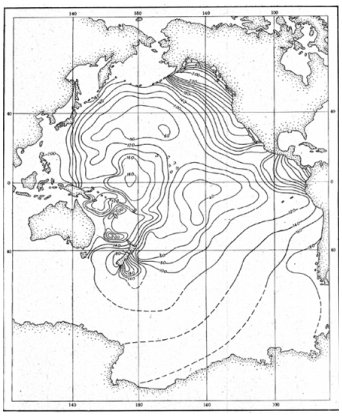


Figure 11 This is very clearly seen behavior of gravity forces.

Why does the moon come to us with one side

There is usually the following answer to this question - it makes one revolution around itself during the flyby around the Earth. But what makes it behave like this?

Its former rotation is indicated by the presence of meteorite craters on the entire surface, but not only on the side facing the cosmos.

This is also confirmed by the fact that previously it had an intense magnetic field, and now only a remanent one.

In the process of cooling, the heavy masses of internal substance were grouped mainly in the Earth-facing side, thus turning the Moon into a kind of "Roly-Poly", making it turn to us with one and the same heavy side.

Thus, the mutual gravity force not only keeps the Moon in the orbit of the satellite, but also makes it constantly rotate, that contributes to the waste of energy.

The fact that most of the satellites rotate around their planets with one side facing them, and the rotation of planets such as Venus and Mercury is synchronized with the movement of the Earth (these two planets turn to it with one hemisphere when approaching the Earth), suggests that the planets interact with each other as bodies with displaced centers of mass. At the same time, in the case of a liquid core, this center can move inside the solid envelope of the planet.

The same mechanism can explain the reasons for the appearance of a dip in the graph of gravity when the Sun and Moon pass through the sky.

According to the measurement data, the presence of a third mass can be seen, affecting the instrument readings. I'll try to explain it.

Let's imagine that only the Sun and Moon affect the tide on the mantle. If the motion trajectory of these two bodies coincided (Figure 12), for example, the section from 5.05.2013 to 13.05.2013, the readings at the measurement point would be uniformly transitioning from the minimum, at the time of the location of the Sun and Moon at the zenith, to the maximum, when they are above the opposite side of the Globe. Now let's look at the measured data.

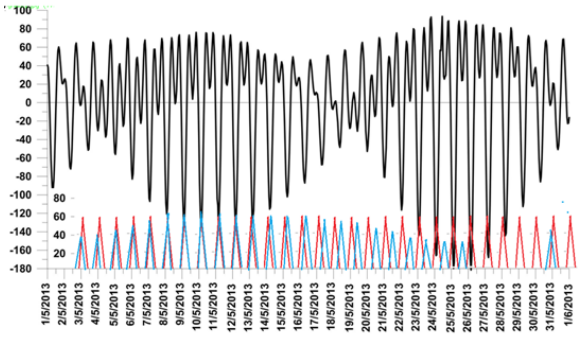


Figure 12 The behavior of gravity forces during May, 2013.

Red color shows the conditional position of the Sun in degrees above the horizon, blue one - of the Moon.

Conspicuously, in addition to a smooth and harmonious change, there are also significant dips in the instrument readings at night, when both the Sun and the Moon, being on the opposite side, should increase the gravity to the Earth. In fact, there is a decrease in the gravity forces. Such indications cannot be explained in any other way, except by the influence of the third mass. And this mass, moving after the external gravity forces, is the heavy part of the Earth's core. The gravity force decreases proportional to the square of the distance to the center of nuclear mass, moving away from the measurement point.

As a comparison, you can look at the section of the graph from 20.05 to 26.05 (when the Sun and Moon are in opposite phase); it is clear that the gravity at the measurement point exactly depends on the position of the Sun and the Moon.

In addition to the location of the core, these forces affect its shape-grouping or smearing it on the internal volume of the planet.

This graph shows how the almost identical behavior of the instrument readings is caused by completely different positions of the Sun and Moon (Figure 13).

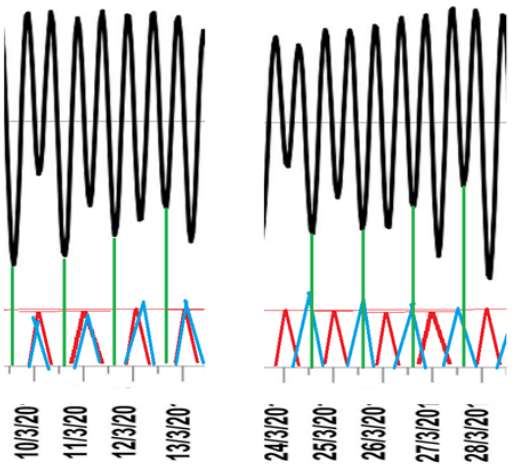


Figure 13 The behavior of gravity forces in March, 2013.

This can be demonstrated very easy, without any mathematical models, by pouring iron balls into a glass jar and turning it, having the Earth as one gravity force, and the other one simulate with a magnet. It can be seen that the core can even split into two, depending on the location and magnitude of the applied forces.

The movement of the Earth's core leads to the heating of the internal structures of the planet, which, together with solar exposure, allows you to maintain a temperature range on the planetary surface suitable for the existence of known life forms.

Changes in the earth-rotation period (duration of the day) — seasonal and half-monthly

This portion of the paper is based on the data given in the excellent monograph by V.M. Kiselev, Ph.D.[9]

"The rotation of the Earth from the Archean up to now", that is why it will mainly consist of quotations.

"The basis for instrumental measurements of the features of the Earth's rotation around its axis are astronomical definitions of the time intervals between two consecutive similarly-named culminations on the same geographical meridian of some luminary or a conditional point of the coelosphere. Stars and the Sun are used as such luminaries, and the vernal equinox (Aries point) and the mean equatorial Sun are used as conditional points on the coelosphere".

"The local solar time on the meridian of Greenwich, counted from midnight, is called Universal Time UT0. Thus, the universal time scale obtained as a result of astronomical observations of the luminaries is a scale determined by the Earth`s rotation around its axis"

Whereas:

"... since 1955, atomic and molecular systems for reproducing frequency and time reference have been used, on the basis of which the Atomic time scale TA1 was created".

Currently, this accuracy has increased to 0.001ms.

Let's use the graph constructed by the author of the monograph, based on these data (Figure 14).

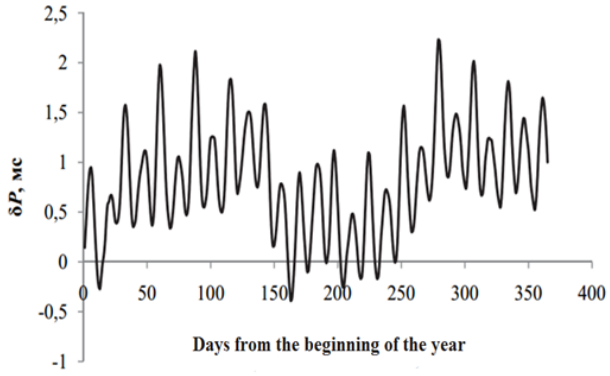


Figure 14 Change of the duration of the day in 2006.

The graph shows periodic changes in turnover time - semi-monthly and during the year.

Let's try to explain these fluctuations.

As it was mentioned earlier, the core of the planet moves not only in a circular motion, but also from one hemisphere to another and back, depending on the time of year. Such a change in the place of movement leads to the fact that the path of the core motion changes from the minimum at the poles (winter, summer) to the maximum at the equator (autumn, spring) in Figure 2. It is clear that a longer path of motion in the equatorial region causes greater resistance to the rotational motion of the planet, thereby increasing the rotation time (days).

Half-monthly fluctuations are explained by the separation or vice versa grouping of the mass of the planet's core under the influence of solar and lunar gravity, depending on the location of the Sun and Moon relative to the Earth. A more detailed study of this influence has yet to be carried out.

Based on these data, with a competent mathematical approach, it is probably possible to estimate the weight value of the moving part of the planet's core.

Earthquakes, mountain formation and continental migration

The mass of the planet's core, influenced by various, then folding, then subtrahend gravity forces from the Sun and Moon, moves along the "inner" surface of the Earth, constantly mixes, bumps into irregularities, making a new passage for itself every day. At the same time, the inner part of the Earth crust is constantly under the influence, which is transmitted to the tectonic plates, making them gradually move, thereby moving the continents. And they really move transversally (East-West) and do not move in the longitudinal direction (South-North). Sometimes, in literature, movement is associated with tidal forces. As we can see, this is partly true, but tidal forces alone cannot create movement, because they are directed first to the East, and then during exactly the same time to the West. And only the moving core is directed from East to West.

The exposure on the inner surface of the mantle will naturally be ununiform, due to its heterogeneity.

When the flow is moving, a wave with a crest may appear when crawling onto an internal irregularity and further collapse can cause an earthquake (Figure 15).

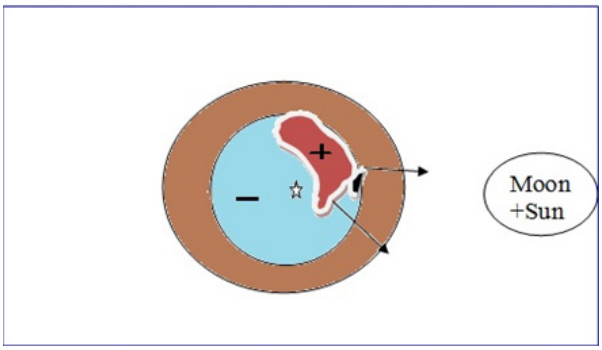


Figure 15 Collapse of a part of the core.

Confirmation of this mechanism of earthquakes occurrence is that most seismic origins are located on the boundaries of lithospheric plates, in other words, on the place of geological irregularities.

This phenomenon may be the cause of movements in the surface layers of the mantle, leading to the appearance of additional seismic origins and aftershocks.

It should also be noted that magnetic storms on Earth are accompanied by low-frequency vibrations of the Earth's body and, conversely, earthquakes are accompanied by electromagnetic radiation, i.e. these two phenomena are interrelated, that can also serve as confirmation because there are jumps in electric charge (stream of the charged substance), and the transition process, as known, has a wider spectrum than direct current.

One more thing, – the "lull" effect of seismic activity and electromagnetic background radiation before major earthquakes is known. This is how it is described in the works of the Malyshkovs[3] on the eve of many earthquakes, we found not an increase, but a decrease in the intensity of the fields. Depending on the energy of the upcoming earthquake, the reduced pulse count lasted from several hours to several days and was observed at night and in the afternoon, in the summer and winter months. If the fields were increasing, it would be possible to talk about the inclusion of additional sources arising in the focus of the rock mass damage that has begun. The decrease in the pulse flow was puzzling".

Such an "accumulation" of the mass of the charged substance of the nucleus, causing a lull and leading to a subsequent damage, as we see, is quite understandable.

And one more thing, - according to eyewitnesses, a loud roar is heard during large earthquakes, as if it is a huge avalanching, i.e. there are mass movements over long distances.

The assumption of damage is also supported by the fact that, according to acoustic studies, an earthquake occurs almost simultaneously over a large extent of the Earth's surface (up to 1000 km). Naturally, the damage itself is much smaller, and there is the expansion of the sphere and the multidirectional nature of the seismic wave causes increasing the area.

Such a mechanism of internal dynamics can also help in understanding the process of mountain formation. There are not just some incomprehensible forces of tension in Earth crust, but concrete ones with known directions and causes. If you look at the physical map of the world, you can see that most of the mountain ranges stretch in the south-north direction, and this reminds everyone of the familiar formation of glacial hummocks during ice motion. The mechanism is very similar- both there and there is a stream and ice or Earth crust above it.

Time jumps and "killer waves"

With the advent of new, more precise time measuring means, it was noticed that sometimes the course of celestial (stellar) time changes relative to the reference atomic ones in jumps, as a rule, during large earthquakes. How can this be explained but through the Earth being exposed of forces, turning it at a certain angle? But we observe no external forces of such a power, so we have internal ones left.

It is quite possible that, when the core affects an internal "roughness", the core "pushes" the main body of the planet, altering the astronomical time relative to the stable reference one.

Marines know such a natural phenomenon known as a "killer wave" (periodic waves, monster waves, rogue wave, freak wave, onde scelerate, galejade).

Just a while ago, scientists considered the sailors` stories about gigantic killer waves that emerged from nowhere and took down ships to be just maritime folklore.

The existence of sea waves 20-30 meters high contradicted the laws of physics and did not fit into any mathematical model of formation of waves. It should be noted that these waves appear on relatively calm water surface. They can be a crest or a trough, single one or coming in a set.

The proposed hypothesis can quite logically explain the mechanism of occurrence through the same interactions between the moving core and the internal irregularities of the planet's body, which are carried over the ocean surface.

The motion of the magnetic poles

Thus it turns out that the outer shell of the Earth is weakly related to the processes taking place between the planets, and therefore is "free" to move relative to the center of mass (it is similar to rotation of the outer rim of a bearing with internal one being fixed), while changing the position of the magnetic poles on the surface of the Earth, but without changing the position in space. A shift occurs before the mantle comes into one of the local stability points. It does not have to be a complete polarity reversal. Although inversion is more likely than just some kind of a lope, for the reason that for many millennia, the core has "washed out" a certain moving direction, gave the planet a known shape (geoid) and if the shell is tilted in some way, it will be more difficult for the flows to make new directions than just to return to the old ones, but flow into the opposite side.

On the question of gravitational waves

Changes in the values of Newton's gravitational constant G, measured at different times, led scientists to think about the influence of external gravitational forces, called gravitational waves. The search for these waves engages many scientific organizations in, and significant funds are being invested in the creation of installations. The history of this study of these phenomena and emerging in the process problems are considered in detail in the work of Vikulin A.V.[10] For example, he says:

"The conclusion about the existence of a relationship between geodynamic processes and phenomena in Space is in full accordance with Mach's principle of the universal coherence of all processes occurring in the Universe. Only gravity, which unites all parts of the universe into a single whole, can become the connecting "cosmic" link of such a relationship. The connecting "earth" link of the relationship between geodynamic processes and phenomena occurring in Space can be rotary geodynamic waves, which are as

distinctive for an orbiting geological environment (geo-environment) as for bodily seismic (elastic) waves for an "ordinary" solid. The existence of a relationship between cosmic (gravitational) phenomena and geodynamic processes is almost obvious. The possibility of such an approach to the problem has been discussed in various papers".

As we can see, the author has almost approached understanding the ongoing processes, and if we change the newly introduced definition of "rotary geodynamic waves" to a simple one - the mass motion of the core, then all will make sense, and the problem of gravitational waves will be solved. In other words, we can say that sound waves are created by an oscillating diffuser, electromagnetic waves create alternating current, and gravitational waves create a change in the distance from the main mass of the planet to the recording device, and they should be searched not in space, but "underfoot". Perhaps these values of G, measured at different moments, will allow us to estimate the mass of the moving core.

Why are the trajectories of the planets of the solar system (ss) located in the same plane?

And really, why?

(The angle between the ecliptic plane and the orbit plane is called the inclination (declination) (Figure 16). Pluto was the planet with the largest inclination of 17° until it was demoted its planetary status. Mercury is the only planet with a significant inclination of 7°.)

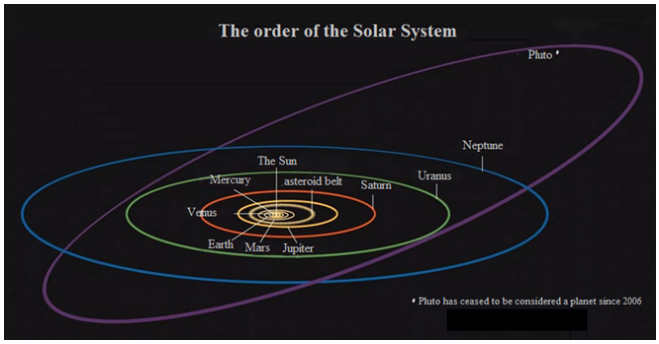


Figure 16 Drawing from the internet.

If we exclude some external, reasonable influence (Supreme Intelligence), which not only once determined such an order of motion, but also constantly maintains this order, then it would be quite logical to consider this a property of the system itself. In other words, the components of this system are endowed with such characteristics that together they are located in order, or they at least try to.

Currently, gravity forces are considered to be the main power of influence of cosmic bodies on each other.

Let's imagine that one of the planets went wrong of the general system and began to move out of the plane. Then, when passing by the "neighboring" planets, forces, making it get into line, will immediately appear. Otherwise, apart from centrifugal and centripetal forces, a force vector perpendicular to the trajectory will appear. As a result, it will bring the planet to return to its place.

Apparently, the planets, that currently have a declination other than zero, have not yet fully established their orbits. Most likely, the planet determining the location of the ecliptic SS is Jupiter, as the largest and most massive planet. All the other planets "adjusts" to its influence.

The angle of inclination of the Earth's orbit is traditionally taken as the zero angle of inclination, and all other angles look like this:

Mercury – 7.005

Venus – 3.395

Earth– 0

Mars – 1.850

Jupiter – 1.303

Saturn – 2.489

Uranium – 0.773

Neptune – 1.770

And if we take the orbit of Jupiter as a zero angle of inclination, then the spread will noticeably decrease and will be like this:

Mercury – 5.702

Venus – 2.092

Earth – 1.303

Mars – 0.547

Jupiter – 0

Saturn – 1.186

Uranium – 0.53

Neptune – 0.467

And the "width" of the plane of motion will narrow its boundaries.

In addition to planets, the trajectories of most satellites also do not go far from the general plane.

Everything seems to be simple, but I have not found an explanation of this behavior of planets for some reason, that's why I decided to write.

Conclusion

The presented mechanism of planets interaction and the physics of MP is confirmed by the properties of the fields of all terrestrial planets of the Solar System without exception.

The proposed approach opens up new opportunities in the study of phenomena occurring on and inside planets. Though cyclical processes are complex, but they are explicable and much easier to predict and interpret.

A lot of literature related to this topic was studied while preparing materials for this article, and the fact of the huge presence of mathematics along with the complete absence of a clear description of the physics of the ongoing processes was always striking. Moreover, Newton's approach was completely ignored – "I frame no hypotheses. For whatever is not deduced from the phenomena must be called a hypothesis; and hypotheses, whether metaphysical or physical, or based on occult qualities, or mechanical, have no place in experimental philosophy".

Let`s do a small digression from the topic.

Mathematics is a very useful tool for description and prediction, but it works on a certain, limited range of input parameters. At the same time, it is necessary to know the full set of these parameters, and also take into account that going beyond the known ranges can lead to qualitative changes in the properties of matter.

The use of mathematics without taking into account physics leads to a significant distorted view of the idea of reality. Overuse of substituting the properties of nature with models is like going into a virtual world that has little in common with reality. Nature did not know mathematics, creating this world; it was invented by people for their convenience. Most of the basic, practically used laws are empirical.

Naturally, further work is required to confirm and expand the understanding of the ongoing processes, as well as the development of mathematical methods, that will take into account many parameters that affect the behavior of planets, many of which are unknown up until now.

Acknowledgments

This article is not a hypothesis, since everything said is confirmed by measured and observed data. This article is not a theory, as no new concepts, laws, patterns are introduced. This article is a description of natural phenomena based on known and proven laws, but taking into account a factor not previously considered.

This article is addressed to specialists of different and rather narrow areas - geophysics, oceanics, physics of the Earth's MF, astronomy, etc. And, as a rule, the answers contain the words: "I am not an expert ..." and further by choice. Dear reader, life teaches us to look at questions through a broader lens. Everything is interconnected in nature. And if you really want to be a specialist in your field, then you just need to know as much as possible about the factors affecting the object you are studying. Interest also makes the difference. If you are interested, then you can do a lot, and if you are not, then even receiving a salary for it will not help. And, of course, it`s important to take some time out of your busy life. Having

read the article, you may well consider yourself a specialist in the issues under consideration.

Conflicts of interest

The author declares that there is no conflict of interest.

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