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CAUSES OF EBBS AND FLOWS

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ABSTRACT.

In modern science, the appearance of tides is explained by the influence of the gravitational field of the Moon.But this explanation is contradictory, since each point on Earth rotates relative to the Moon once in 24 hours 48 minutes, and tides occur twice a day.An explanation is offered for the cause of the formation of tides in the oceans based on the author's theory of vortex gravity.

Keywords: Theory of vortex gravity, cosmology, cosmogony.Aerodynamics

PREFACE

It is known that the appearance of the sea ebbs and flows twice in 24 hours and 50 minutes is explained by the influence of the gravitation fields of the Moon and Sun and by the centrifugal forces (Galileo, Descartes, Newton and others).

Since the Moon and Sun are in zenith under one Earth surface point only once a day (or in 24 hours 50 min.), they could not have an equal influence upon this point by means of their gravitation twice a day.

The model of vortex gravitation gives a new explanation of this phenomenon.The next chapter provides a brief outline of the theory of vortex gravity.

2. THE THEORY OF VORTEX GRAVITATION

The theory of vortex gravity, cosmology and cosmogony[1] is based on the assumption that gravity of, all celestial bodies and elementary particles are created by etheric vortices (torsions). The size of bodies (systems of bodies) and corresponding vortices can differ by an infinite value. The largest etheric vortex that a person can observe is the universal whirlwind, the smallest - the atomic whirlwind.

The orbital velocities of the ether in each vortex decrease in the direction from the center to the periphery, according to the inverse square law. In accordance with the Bernoulli principle, the change in orbital velocities causes an inversely proportional change (increase) in pressure in the ether. The pressure gradient creates the forces of vortex gravity and pushes the substance (body) into the zones with the least pressure, that is, in the center of the torsion bar. This pattern operates in the same way in ethereal vortices of any size.

A vortex can rotate only in one plane. Consequently, the decrease in the pressure of the ether occurs in the plane of rotation of the ether. Based on Archimedes' law, all bodies are pushed into the plane in which the least pressure occurs. Therefore, the forces of gravity act plane-symmetrically and it is necessary to abandon the classical model of the central-symmetric action of the forces of gravity.

The ether is an infinitesimal dense gas that permeates all bodies (substances), except for superdense ones. These superdense bodies are the nucleons of atoms. Therefore, the pressure gradient in the ether can only expel these superdense bodies. These superdense bodies include the nucleons of atoms.

In the theory of vortex gravity, the Navier-Stokes equation for the motion of a viscous fluid (gas) was used to determine the pressure gradient in an ether vortex.

$$\rho\left[\frac{\partial}{\partial t}+\vec{v}\cdot \mathrm{grad}\right]\vec{v}=\vec{F}-\mathrm{grad}\quad P+\eta\Delta\vec{v}$$

(1)

$\vec{v}$ - velocity vector of the ether,

P - ether pressure,

η - viscosity.

If using cylindrical coordinates, taking into account the radial symmetry$v_r=v_z=0$, $v_\varphi=v$

(r),P=P (r) the equation can be written in the form of a system

$$\begin{cases} -\frac{v(r)^2}{r} = -\frac{1}{\rho}\frac{dP}{dr} \\ \eta\cdot(\frac{\partial^2 v(r)}{\partial r^2} + \frac{\partial v(r)}{r\,\partial r} - \frac{v(r)}{r^2}) = 0 \end{cases} \quad (2)$$

After the transformations, an equation is obtained for determining the gravitational forces in the ether vortex:

$$F = V_n \times \rho \times \frac{v_e^2}{r} \quad (3),$$

with the following dependence $v_e \sim \frac{1}{\sqrt{r}}$where

V_n- volume of nucleons in the body that is in the orbit of a torsion with a radius of – r

$\rho = 8.85\ x10^{-12}$ kg / m^3 - ether density [2]

v_e -speed of the ether in the orbit r

r - the radius of the considered orbit of the ether vortex

Replacethe volume of nucleons in equation (3) by their mass, using the well-known dependence:

$V_n = m/\rho_n$, (4) where

$\rho_n \sim 10^{17}$ kg / m^3 - density, constant for all nucleons.

m - mass of nucleons in the body

Substituting (4) into (3), we obtain

$$F_g = \frac{m}{\rho_n} \times \rho \times \frac{v_r^2}{r} = 10^{-28} \times m \times \frac{v_r^2}{r} \quad (5)$$

Note. With the help of vortex gravity equations (3) and (5), gravitational forces can be calculated that act only in the plane of the vortex (torsion). To determine the attractive forces at any point below, additional studies are presented.

3. DETERMINATION OF FORCES OF GRAVITATION IN SPACE

As in known, the planets revolve around the sun in an ellipse with a small eccentricity.

This fact can be explained from the position of vortex gravity. In addition, the elliptical trajectory of the planets will allow us to calculate the gravitational force in a three-dimensional model.

The reason for the appearance of "contraction" of planetary orbits is the inclination of the plane of these orbits to the plane of the solar, gravitational torsion, which is proved by the following conditions.

As is known, the planes of orbital motions of all planets are located with small deviations from each other. Consequently, the planes of the orbits of the planets have an inclination to the plane of the solar gravitational torsion, where the greatest gravitational force acts on each orbit, and they (planets), in their orbital motion, therefore cross the solar torsion at two points. These points of intersection are the centers of perihelion and aphelion.

In aphelion and perihelion, the force of solar gravity acts on the planets with the largest value in this orbit and, consequently, the orbit of the planet has the maximum curvature. When the planet exits (deflects) from the plane of the solar torsion, the gravitational forces decrease, and the trajectory of the planets "straightens". A similar cycle of variation of gravitational forces and trajectory of motion is repeated for each planet in each revolution around the Sun. The more the trajectory of revolution of the planet deviates from the central plane of the solar torsion, the more the gravitational forces in these areas decrease. Consequently, the orbit must be more "compressed". A constant, cyclic variation of these forces makes the trajectory of the circulation elliptical.

With significant inclinations and high velocities, the satellite's orbit (meteorite, comet) acquires the trajectory of a hyperbola or parabola. Therefore, the celestial body, once circling the Sun, leaves the gravitational field of the solar torsion forever.

In the theory of vortex gravity [1] it is proved that the squareness of the planet's orbit depends on the angle of inclination of the orbital plane of the considered planet to the plane of the gravitational solar torsion. This dependence has the form:

$K = \frac{b}{a} = \cos\beta$ (6), where

K - coefficient of compression of the orbit of the celestial body

a - the length of the semimajor axis of the planet's orbit

b - the length of the minor semiaxis of the planet's orbit

β - the angle of inclination of the planet's orbital plane to the gravitational plane of the solar, etheric vortex (Fig. 1).

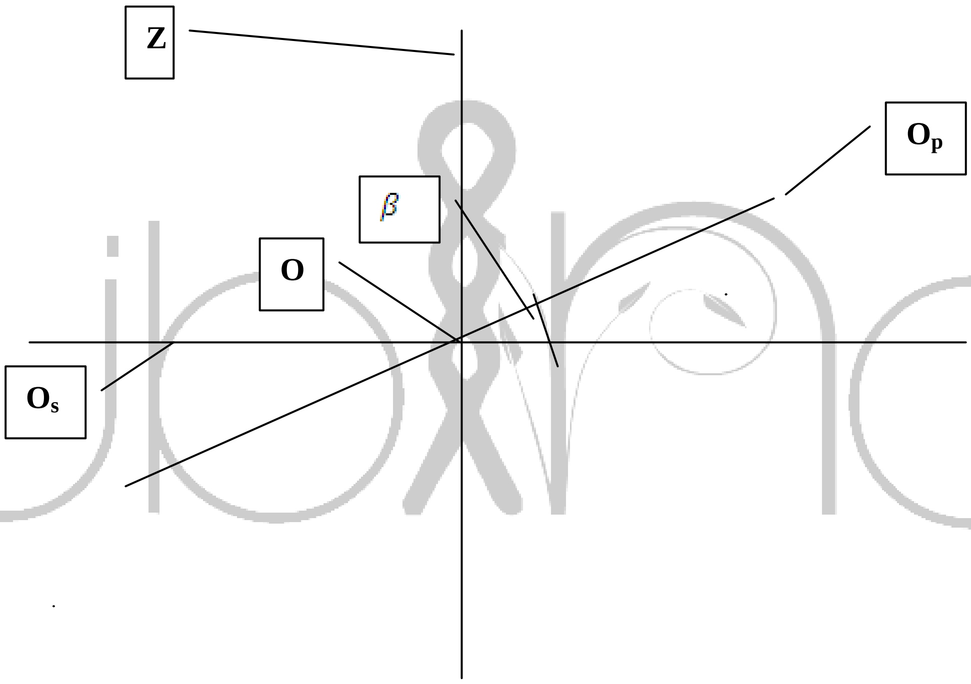

Figure 1. Cross section of the solar system.

O_s- lateral projection of the orbit of the etheric solar torsion

O_p - lateral projection of the planet's orbit

Z - axis of rotation of the torsion bar

O - projection of the line of intersection of the orbit of planets with a gravitational orbit

Calculations [3] found that the forces of vortex gravity decrease as the distance (s) from the plane of the torsion (in the direction of the torsion axis) is inversely proportional to the cube of this removal - $1/s^3$.

In an arbitrary arrangement of the point under study, the force of the vortex gravity is determined (taking into account Equation 3) as:

$F_{gv} = F_{gn} \ Cos^3\beta = V_n \times \rho \times \frac{v_e^2}{r} \times \cos^3\beta$ (7)

where

$\cos^3 \beta$ = Kg - the gravitational coefficient

F_{gv}- the force of gravity at an arbitrary point
F_{gn} - gravitational force in the plane of the torsion

In the author's article [1], the calculation of the solar gravitational forces acting on Pluto and Mercury was made based on equation (7).The accuracy of the calculation using this equation exceeded the accuracy of the calculation using Newton's equation by ten times.
The location of the plane of the gravitational torsion in space can be determined by the coordinates of the perihelion and aphelion of all celestial bodies that turn in this plane.

4. THE EBBS AND FLOWS

On the basis of the vortex gravitation, the form of the Earth gravitation torsion is discoid and plane-symmetrical. Itsdirection mainly coincides with the Moon orbit plane which is inclined to the ecliptic on 5 degrees and 9 min. Meanwhile, the Earth equator plane has the inclination to the ecliptic of 23.7 degree. The compression coefficient of the Moon orbit,or the cosine of the inclination, is 0.9985. That is, the inclination of the Moon orbit to the Earth torsion is 3 degree and 6 min (formula (6)). Ageometricalcomparisonoftheseinclinations' evidences that each Earth surface point rotates with a considerable angle as related to the Earth gravitation torsion plane. Thus, oneandthesamepointoftheEarthsurfaceeverytimeintersects the gravitation torsion across its direction, or it first approaches to and then moves away from the torsion. TheforceofthevortexEarthgravitation, acting onto this point, changes in this case correspondingly (see Fig.2).

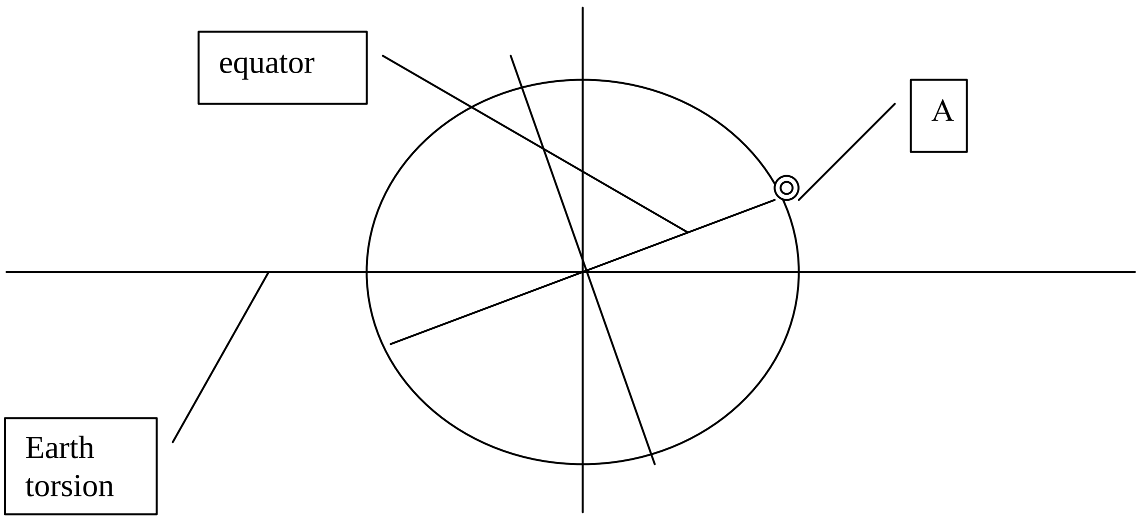

Fig.2 Inclination of the Earth equator

Point P, located on the equator, during its daily movement around the center of the Earth must cross the central plane of the Earth's torsion twice and move away from it twice.Consequently, the forces of the Earth's gravity reach their maximum and minimum impact on point P twice a day, which has a physical effect on the Earth's surface or on the water level at this point.This circumstance explains the fact that high and low tides occur at the same point twice a day.At the moment of passing point P through the Earth's gravitational plane, the force of gravity acts on this point with a maximum value, which "presses" the water surface and low tide occurs.Low tide, in turn, squeezes the marine environment into zones of the Earth's surface where the force of the Earth's gravity has smaller values, that is, into zones located at an angle of 90 degrees to the plane of the gravitational torsion.High tide occurs in these zones.The protrusions (high tides) and depressions (low tides) of the marine environment constantly retain their shape in relation to the earth's gravitational torsion, without horizontal movement of water. In the article [1] it is stated that the method of geodetic gravimetry has established that at the poles the force of the earth's gravity has values that are 0.43% less than the calculated and theoretical forces of gravity, which proves the above-mentioned, uneven force of gravity on the surface of the Earth. At the same time, it is known that the force of solar gravity in the Earth's orbit is 0.06% of the force of gravity of our planet on its own surface.The Moon, according to the classical theory of gravity, affects the surface of the Earth with a force of attraction equal to 0.0003% of the force of earth's gravity. When comparing these values, it is obvious that the wave change in the forces of the Earth's gravity under the influence of its own rotation occurs on the Earth's surface with an intensity that exceeds the same change in the Earth's gravity under the influence of the gravity of the Moon and the Sun by several orders of magnitude.

5. Conclusion

It should be noted that the constant, wave-like change in the intensity of the gravitational field acting on the Earth's surface must be a noticeable catalyst in the tectonic movements of the crust and in the increase of seismicity. According to formula 7, the greatest change in gravitational forces should occur on the Earth's surface at latitude next to the equator. This dependence explains the higher intensity of seismicity in these areas.

In addition, the cyclical change of gravity at the same point should be considered for high-precision research or production, medicine and other natural sciences, including record recording.

Specifically, the launch of spacecraft must be performed at the hour when the geographic point on which the space station is located has most deviated from the plane of the terrestrial gravitational torsion (midnight or noon)

The above-mentioned version of the causes of tides allows to conduct a low-cost, experimental test of the proposed theory of vortex, plane-symmetrical gravity.

This requires a continuous, accurate measurement of the change in gravity (gravity, weight) at any stationary point on Earth over a 24-hour period and comparing the change in the magnitude of the gravitational force with the distance of that geographical point from the plane of the Earth torsion. On the plots located at latitudes above or below +- 23 degrees, the gravity change should occur with a cycle once a day. On the sites located between these areas, or close to the equator, the cycle of gravity change will be twice a day.

If there is a decrease in the force of gravity when this point is removed from the plane of the terrestrial torsion, it will mean the complete proof of the proposed theory.

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