

# Gravity Force (HF) on Planet Earth Described by Theory of New Axioms and Laws

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## Abstract

The theory of new axioms and laws describes nonparametric and nonlinear processes and contains 2 new axioms and 8 new laws. Unlike Classical Field Theory, it describes longitudinal or transverse non-uniform motions or complex longitudinal-transverse and transverse-longitudinal non-uniform motions with various parameters and with various causes of the motion.

According to the Axiom1 every unevenly rotation of one vector form open vortex which can be accelerating or decelerating and as well as transverse in 2D or longitudinal in 3D.

From previous reports is understood that both the electron and the planet Earth are gravitational bodies as result. According Law1 the reason for generating the electron is a transverse decelerating vortex in 2D coming from the proton which is rolled up from periphery to center and generates there longitudinal accelerating vortex in 3D. According Axiom2 the electron and the proton form resonance system. According Law2 the reason for the creation of the proton is a longitudinal vortex from outside in 3D to the center; which generates there transverse accelerating vortex in 2D from center to periphery, perpendicular to the longitudinal vortex.

It is well known the Rutherford's model of the analogy between the atomic structure and the structure of the solar system. But according new axiom and laws the reason for the creation of the planet Earth is in the generation a complex vortex in 2D (inside the third cylindrical resonator in volume of the Sun) from a longitudinal vortex in 3D (coming from outside). This complex vortex acts the energy control and management of Earth. It carries low-frequency (LF) power energy as a base and high-frequency (HF) pulses modulated onto the base. As described in previous report, low-frequency energy generates the inner planets in the Solar System (including Earth) and its low-frequency pulsation transforms their circular orbits into elliptical orbits.

This article will describe how high frequency pulses create the personal, self-gravity of planet Earth in particular, and why they cause both a gravitational push from the outside to the body and a gravitational pull from Earth out. This report uses 2 new Axiom and 3 new Laws only.

## Overview

### LF generation vortex [9]:

This case was described in previous report. The Low Frequency vortex is shot transversely in 2D from the third resonator in Sun and enters into periphery of Earth's sphere. It winds transversely and moves decelerating from periphery to the center. According to Law 5, the decelerating vortex emits decelerating transversely primary vortices out of the vortex. This means that the direction of the primary vortices is from the periphery to the center of the cross section of the sphere.

In the center of the cross section in 2D the described primary vortices are superimposed, phased and resonated. According to Law 1 a longitudinal vortex in 3D is obtained, perpendicular to the cross section in 2D of the sphere in which the input decelerating vortex is wound. Thus an axis of internal Gravitational Field is obtained, and its Back wave forms the internal Magnetic Field (in opposite directions). This longitudinal vortex generates Gravity Poles of Earth and at the same time its Back Wave generates and Magnetic Poles of Earth (in opposite directions).

### **A description of HF impulses:**

The LF based signal which arrives to surface of Earth's sphere is perpendicular to her. Due to the curvature of the Earth's sphere this signal splits into two parts. One signal slides to North and it rotates to the left, viewed from top to bottom. At the same time one other signal slides to South and winds to the right, seen from below, upwards. These two LF vortices (toward left and toward right) are modulated in time with a very HF (Figure2, 7). According to Law 1, the decelerating transverse vortices in 2D generates an accelerating longitudinal vortex in 3D from the center in a direction perpendicular to plane of the transverse vortex. This means that the left rotated cross vortex will generate a longitudinal vortex upwards (to North) and the right transverse vortex will generate a longitudinal vortex in the opposite direction – downwards (to South).

**Result:** The left transverse vortex will generate a longitudinal vortex to North hemisphere and the right transverse vortex will generate a longitudinal vortex in the opposite direction to Southern hemisphere. Also according to Law 1, when the transverse vortex is decelerated with great negative acceleration, the longitudinal vector decreases (Figure1, j). But when the transverse vortex is decelerated with less negative acceleration, the longitudinal vector lengthens (Figure1, i). In this way the two opposite longitudinal vortices contract and lengthen in opposite directions (up and down) synchronously and pulsate simultaneously (Figure2, 11).

**Result:** The two opposite longitudinal vortices contract and lengthen in opposite directions, synchronously and they pulsate simultaneously. The theory shows that the HF pulsation is in the order of 10 10 GHz.

### **Description of the phenomenon of type's arcs:**

Long along axis (3D) - contracted along radius (2D) (Figure 1i) and short along axis (3D) - inflated along radius (2D) (Figure1j).

According to Law 5, the decelerating longitudinal vortex emits decelerating vortices from the itself to outside. When HF impulse is taken out from LF the vectors are shortening and a much curved arch from a decelerating vortex flows between them. It emits transverse decelerating vortices from itself towards to surface of Earth (Figure3, 11, b).

**Result:** When HF impulse is subtracted from LF the axis is shortened. A much curved arch from a decelerating vortex flows between them. It emits transverse decelerating vortices from itself towards to surface of Earth.

**Result:** When HF impulse is added above LF the axis get longer. A arch is transformed from very curved arch to straight arc. It suck in accelerating vortices from surface of Earth up.

## **Introduction**

### **The Classic Axiom:**

The classic axiom in the Theory of the Electromagnetic Field certifies Maxwell's laws (1864). It postulates that the movement of an electric vector E in a closed loop is evenly:

$$\text{div}(\text{rot } E) = 0, \quad 1.$$

where (rot E) is the movement of the vector E in a closed loop; div (rot E) is the divergence of the vector E during its movement in a closed loop (rot E). The movement of the vector E in a closed loop (rot E) with zero divergence of the vector E is equivalent to evenly movement or to movement with constant velocity V [1].

**New Axiom 1:** The moving of vector E along an open loop is unevenly, or velocity is variable:  $\text{div}(\text{rot } E) \neq 0$ , 2. It exists a vortex  $\text{div}(\text{Vot}E) \neq 0$  as an open loop ( $\text{div}(\text{rot}E) \neq 0$ ) in 2D. It exists a vortex  $\text{div}(\text{Vot}H) \neq 0$  as an open loop ( $\text{div}(\text{rot}H) \neq 0$ ) in 3D or:  **$\text{div}(\text{Vor}E) \neq 0$ ,  $\text{div}(\text{Vor}H) \neq 0$ . 3.**

### **Consequence (of moving in vortex):**

The existence of an open loop means that it can exists a decelerating or an accelerating vortex in 2D and in 3D [2, 3].

In 2D :  **$\text{div}(\text{Vor}E) < 0$  (dec) ;  $\text{div}(\text{Vor}E) > 0$  (acc) ; 4a.**

In 3D:  **$\text{div}(\text{Vor}H) < 0$  (dec) ;  $\text{div}(\text{Vor}H) > 0$  (acc) ; 4b.**

Moving with monotone-decreasing or monotone-increasing velocity becomes along an open vortex:

**$\text{div}(\text{Vot}E) \neq 0$  for vector E in 2D (in plane) named as cross vortex. 5a.**

**$\text{div}(\text{Vot}H) \neq 0$  for vector H in 3D (in volume) named as longitudinal vortex. 5b.**

### **Consequence (of variation of moving):**

The main result of Axiom 1 is that there have been 4 types of vortices : a cross vortex in 2D (E2D) that can be accelerated (E2D +) or decelerated (E2D -) and a longitudinal vortex in 3D (H3D) that can also be accelerated (H3D +) or decelerated (H3D -) (Figure1c, d).

We immediately received 4 types of movements – cross (2D), which can be accelerated or decelerating (4a) and longitudinal (3D), which can also be accelerated or decelerating (4b).

### **Consequence (of visual perception):**

It is known that light is spreading crosswise. Therefore, the cross vortex will reflect the light rays, and an external observer will perceive the image of the cross vortex. But the thread of the longitudinal vortex does not reflect the light. The light crosses the thread of longitudinal vortex, surrounds the thread, and continue its path without reflecting the longitudinal vortex. So the light forms diffraction. Therefore, the longitudinal vortex is invisible to an external observer.

### **Consequence (vortex turns to a dipole) (Figure 1b):**

The reason is in the acceleration of velocity. For example, in decelerating vortex  $E1 > E3$  and the Geometric Center will aim to move to the larger vector E1 (up). In the same vortex  $E2 > E4$  and at the same time the Geometric Center will aim to move to the larger vector E2 (to the left). Therefore, the Geometric Center will move to a second quadrant or to the Gravity Center.

**New Axiom 2: A pair of complementary vortices forms a resonance system.**

The specification of new axiom and laws is that the system works in resonance. The new definition of a system includes simultaneity at unified internal time and bidirectional and also commitment to the exchange of matter and energy.

**Consequence:** Two pairs of complementary vortices exist simultaneously, at the same time.

In one pair in one direction in 2D:  $+E_1 = +A + iV$  ;  $+E_2 = +V + iA$  6.

In the opposite direction in 2D:  $-E_1 = -A - iV$  ;  $-E_2 = -V - iA$  7.

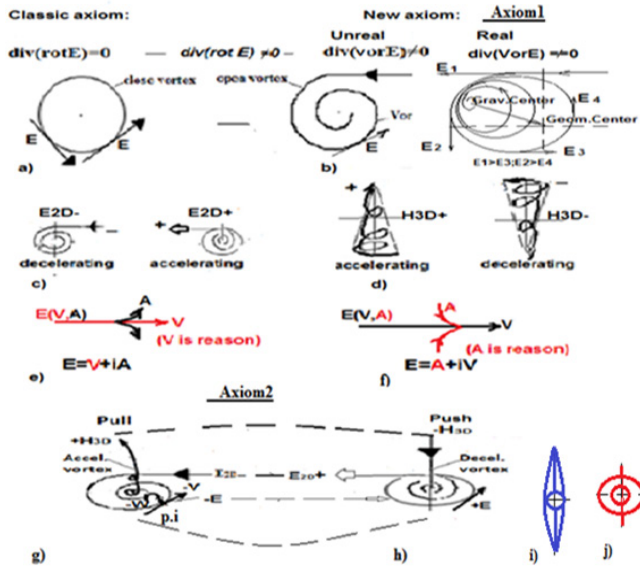
**Consequence According analogy:** In one direction (6) are generated proton – electron (Sun-Mercury, Earth and Mars) in inverse direction are generated antiproton-positron (Sun-Venus).

**Consequence:** A pair of complementary vortices exists at the same time. It is connected by links that exchanges energy and matter.

**Consequence:** In the pair of complementary objects, the both of them form resonance system.

**Consequence:** In the pair of complementary objects, the both of them are active generators.

-For comparison in the Electromagnetic Field, the electrical circuit contains one generator element and one or several passive consumers that only transform energy from one view (kinetic) to the other view (potential).



**Figure 1:** The classical axiom is replaced by a new Axiom1 and Axiom2

**3. Law1 and Law2 form complementary pair of objects : planet Earth and star Sun**

**Law 1: The open transverse vortex (E2D) generates (inward or outward) an open longitudinal vortex (H3D) in its center through a cross-longitudinal transformation Δ1:**

$$\Delta 1$$

$$\text{Vor} (E_{2D}) \Rightarrow -- \text{Vor} (H_{3D}),$$

8.

where Vor (for Vortex, meaning an unevenly vortex) replaces rot (for rotor, meaning closed loop) ;the transverse vortex in 2D (E2D) continues its development in 3D as a longitudinal vortex (H3D) (Figure1d).

While Maxwell’s law states that vector E generates vector H, the present law (8) postulates that the cross vortex Vor ( $E_{2D}$ ) of E in 2D generates a longitudinal vortex Vor ( $H_{3D}$ ) of H in 3D. The sign (-) for Vor ( $H_{3D}$ ) 3D means that  $E_{2D}$  and  $H_{3D}$  have opposite dynamics. For example when  $\text{div} (\text{Vor} E_{2D}) < 0$  (is decelerated),  $\text{div} (\text{Vor} H_{3D}) > 0$  (is accelerated).

**Consequence:** The open decelerating cross vortex (E2D-) generates inward an open accelerating longitudinal vortex (H3D +) outward. This action takes place from the center of decelerating cross vortex (E2D-) through a particular cross-longitudinal transformation Δ1-:

$$\Delta 1-$$

$$\text{Vor} (E_{2D} -) \Rightarrow \text{Vor} (H_{3D} +). \text{ 8a.}$$

It describes in 2D the model of electron (e-) as the decelerating inward vortex (dec (e-) in the chain of proton-electron. Every electron (e-) of this type pulsates in 3D in mode of ” expanded cross vortex and a shortened longitudinal vortex”.

**Result:** The electron (dec (e-) stays about outer electron orbits (Figure 1j). By analogy with Sun system- this planet will stay in an outer orbit.

**Consequence:** The open accelerating cross vortex (E2D+) generates inward an open decelerating longitudinal vortex (H3D-) outward. This action takes place from the center of accelerating cross vortex (E2D+) through a particular cross-longitudinal transformation Δ1+:

$$\Delta 1+$$

$$\text{Vor} (E_{2D}+) \Rightarrow \text{Vor} (H_{3D}-). \text{ 8b.}$$

It describes in 2D the model of electron (e-) as the accelerating inward vortex (acc (e-) in the chain of proton-electron. Every electron (e-) of this type pulsates in 3D in mode of “shrunk cross vortex and extended longitudinal vortex “.

**Result:** The electron (acc (e-) stays about inner electron orbits (Figure 1i). By analogy with Sun system- this planet will stay in an inner orbit.

**Law 2: The open longitudinal vortex ( $H_{3D}$ ) generates (inward or outward) an open cross vortex ( $E_{2D}$ ) in its center through a longitudinal-cross transformation Δ2:**

$$\Delta 2$$

$$\text{Vor} (H_{3D}) \Rightarrow -- \text{Vor} (E_{2D}). \text{ 9.}$$

**Consequence:** The open decelerating longitudinal vortex (H3D-) inward generates an open accelerating cross vortex (E2D+) outward. This action takes place in the center of accelerating cross vortex (E2D+) through a particular longitudinal-cross transformation Δ2-:

$$\Delta 2-$$

$$\text{Vor} (H_{3D}-) \Rightarrow \text{Vor} (E_{2D}+). \text{ 9a.}$$

It describes in 2D the model of proton (p+) as the decelerating outward vortex (acc (p+)) in the chain of proton-electron. Every proton (acc (p+)) of this type pulsates in 3D in mode of “shrunk-en longitudinal vortex and extended cross vortex “.

**Result:** The proton (acc (p+)) stays about outer layer of the nucleus. By analogy with Sun - this resonator will stay in an outer place.

**Result:** When the Consequence (9a) of Law2 are generated by the pipe - wrapped longitudinal vortices, it describes Gravity funnel. It has a **pushing and a pulling** ends. In this case the down end of Gravity Funnel (H 3D) has pushing effect because the pushing end of Gravity funnel is attached to the pushing part of the pair of objects (proton-electron). This end decelerates in 3D direction. It generates in 2D plane (perpendicular to 3D) cross vortex from inside to outside as a matter.

**Result:** The decelerating end in 3D direction generates matter in 2D plane (perpendicular to 3D) cross vortex from inside to outside

**Consequence:** The open accelerating longitudinal vortex ( $H_{3D+}$ ) inward generates an open decelerating cross vortex ( $E_{2D-}$ ) outward in its center through a special longitudinal-cross transformation  $\Delta 2+$ :

$\Delta 2+$

$$\text{Vor} (H_{3D+}) \Rightarrow \text{Vor} (E_{2D-}). \text{ 9b.}$$

It describes in 2D the model of proton (p+) as the accelerating outward vortex acc (p+)) in the chain of proton-electron. Every proton (acc (p+)) of this type pulsates in 3D in mode of “ **extended longitudinal vortex and shrunken cross vortex** “.

**Result:** The proton (acc (p+)) stays about inner layer of the nucleus. By analogy with Sun - this resonator will stay in an outer place.

#### 4. Law5 and Law6 form two type arcs of HF Gravity pulsation

**Law 5: The deceleration vortex in 2D is described with a system of 2 equations in which: longitudinal velocity (V) decreases in (n) portions ( $\psi^n$ ) times; the amplitude (W) increases in (n) portions ( $\psi^n$ ) times:**

$$I V^2 = V_0 (1 - V), \text{ 10.}$$

$$I W^2 = W_0 (1 + W),$$

where  $v_n, w_n$  are periodic roots with period n;  $v_n, w_n$  are mutual orthogonal that fulfill the requirement for orthogonality :  $v_n.w_n = V_0.W_0, v_n.\omega_n = V_0.W_0$ ;  $n = 0 \div \infty$ ; the roots  $v_n, w_n$  are expressed as:  $v_n = (1/\psi_n).V_0, \omega_n = \psi_n.W_0$ ; linear velocity  $V_0$  is the starting value of  $V_n$ , amplitude of cross vortex  $W_0$  is the starting value of  $\omega_n$ ;  $\psi$  is a proportional that fulfills the requirement:  $\psi-1/\psi = 1$ .

**Result:** The double - delayed bow emits decelerating primary transverse vortices from above to the Earth (Figure 2, 11).

**Result:** The high and short arch slowly is opened and it changes to low and longer arch of double - accelerated bow. Simultane-

ously as it stretches it exercises **permanent Gravitational pressure** on all objects on the surface and in the Gravitational belt around the Earth.

**Result:** The arch which elastically stretches from a contracted state to an upright has constant elastic force named constant Gravity force which cause constant Gravity acceleration (g). It sweeps, scoops up and carries down to the surface of the earth all material bodies located at a distance from its surface (Figure 2,11).

**Result:** The elastic force is so big hat it does not depend on the weight of bodies.

**Law 6: The acceleration vortex in 2D is described with a system of 2 equations in which: longitudinal velocity (V) increases in (n) portions ( $\psi^n$ ) times; the amplitude (W) decreases in (n) portions ( $\psi^n$ ) times:**

$$I V^2 = V_0 (1 + V), \text{ 11.}$$

$$I W^2 = W_0 (1 - W),$$

where  $v_n, w_n$  are n periodic roots with period n;  $v_n, w_n$  are mutual orthogonal that fulfill the requirement for orthogonality :  $v_n.w_n = V_0.W_0, v_n.\omega_n = V_0.W_0$ ;  $n = 0 \div \infty$ ; the roots  $v_n, w_n$  are expressed as:  $v_n = (\psi_n).V_0, \omega_n = (1/\psi_n).W_0$ ; linear velocity  $V_0$  is the starting value of  $V_n$ , amplitude of cross vortex  $W_0$  is the starting value of  $\omega_n$ ;  $\psi$  is a proportional that fulfills the requirement:  $\psi-1/\psi = 1$ .

**Result:** The double - accelerating bow sucks accelerating primary transverse vortices from the surface of the Earth and exercises impulse **Anti-Gravitational pulling from the surface of the Earth**.

**Result:** The double - accelerating bow which sucks accelerating primary transverse vortices from the surface of the Earth causes the growth (pulling) of plants from the surface upwards and pulls the water to up as well.

**Summary from the action of the double bent arc** (Figure 2, 11):

**Result:** As a result of the pulsation (in space and in time) is observed two form of transverse stretching with longitudinal contraction and transverse contraction with longitudinal stretching of the double arc. The Gravity pressure occurs down towards the Earth's surface and the Antigravity suction occurs from the Earth's surface up.

**Result:** The process of transverse contraction with longitudinal stretching of the double arc is double-delayed. That is way this process takes more time than the subsequent acceleration process. Therefore the time of Gravitational pushing ( $t_p$  - pressure) to Earth is more than the time of Anti-gravitational pulling ( $t_s$  -sucking) :  $t_p \gg t_s$ . Therefore the effect of pressure prevails over time (t).

**Result:** The decelerating transverse vortices emitted by the double-delay arc have a much larger amplitude  $A_{dec}$  (Law 5) than the acceleration vortices sucked by the double-acceleration arc  $A_{acc}$  (Law6) :  $A_{dec} \gg A_{acc}$ . Therefore the effect of pressure prevails over amplitude (A) as well.

**Result:** The effect of Gravity pressure prevails over the effect of Antigravity sucking.

### System of complementary pair (Earth - Sun) concerning LF and HF modulation

#### Interaction between LF and HF pulsation:

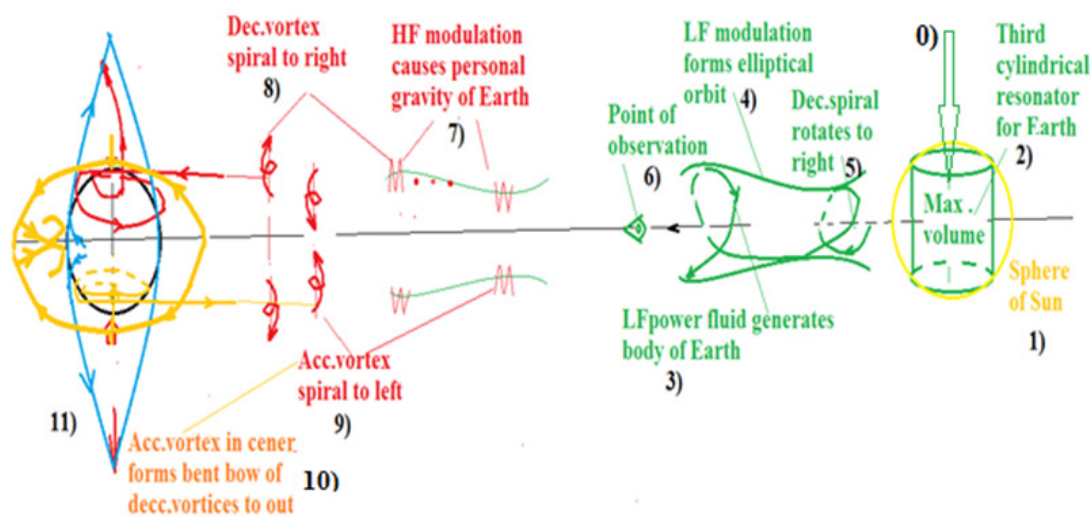
We already know that inside the sphere of the Sun 1 there are 4 cylindrical resonators - one for each inner planet. In each of the resonators resonates the corresponding longitudinal vortex entering as the funnel of the complex longitudinal beam (0). For the third cylindrical resonator (2), corresponding to the planet Earth, the diameter and the height of the cylinder are almost the same. Therefore, the volume of the third resonator is maximum [9]. This fact determines the maximum power of the low-frequency fluid (3), which generates the planet Earth with maximum volume and density. The low-frequency modulation (4) causes the circular orbit of the Earth to become an elliptical orbit. It is already known that the fluid flow moves spirally. In this case, the decelerating spiral is twisted to the right (5) relative to the observer (6), who observes against the direction of movement. Let's remember - in the decelerating flow, the wheels of the transverse vortices rotate to the left with increasing speed, and the time spiral - rotates to the right [8] (Figure 2).

Except the low-frequency modulation (4), there is also high-frequency modulation (7). Namely, it causes the personal gravitational (Newtonian) force to the Earth. When the amplitude of the high-frequency modulation increases and is at its maximum amplitude, the low-frequency modulation (8) emits in the two opposite directions decelerating vortices (8) that stretch the doubly stretched bow outwards (8) (Figure 2, lens 7).

**Result:** When HF impulse increase (Figure 2, 7) it emits in two opposite directions in view of decelerating vortices (Figure 2, 8). When the amplitude of the high-frequency modulation decreases and is at its minimum amplitude, the low-frequency modulation (9) sucks in the two opposite directions accelerating vortices that shrink the doubly stretched bow inward (Figure 2, 9).

**Result:** When HF impulse decreases (Figure 2, 7) it sucks in two opposite directions in view of accelerating vortices (Figure 2, 9). The high-frequency impulses (7) which modulate low frequency vortex (4) cause the reaction in two opposite directions. In this case Gravity field of Earth reacts along the axis of Earth in two opposite directions - once the axis get longer and later and another - the axis get shorter (Figure 2, lens 11)

**Result:** The axis of Earth pulsate - once get longer and later the axes get shorter.



**Figure 2:** System of complementary pair (Earth - Sun)

#### Sylindrical resonators inside the Sun and differences with the protons:

It is well known that the nucleus are arranged in layers. The outermost layers consist of inflated protons (dec (p+)). They control the outermost electrons, which are also inflated (dec (e-)) very eccentric and highly polarized electrons. The innermost layers of the nucleus consist of many shrunken protons (acc (p+)). They control electrons from the innermost orbits (acc (e-)) that are contracted and are not eccentric and polarizing. It is known that the generating vortex for proton comes from difference directions [7].

But it is well known that the generating longitudinal Funnel for Sun (Law6) comes from only one direction (0). And besides, it is not only a single vector but a powerful bundle of many vortices

inserted into each other. They form a Funnel of longitudinal vortices packed into each other according to their velocities. Thus, in the center of this package is a longitudinal vortex with maximum longitudinal velocity ( $v_{max}$ ) and minimum transverse rotation speed ( $\omega_{min}$ ). But a longitudinal vortex with minimum longitudinal speed ( $v_{min}$ ) and maximum transverse rotation speed ( $\omega_{max}$ ) is wound in the periphery [8].

It is known also that the Earth is third planet after Mercury and Venus. That is why the volume resonator in which the beam of longitudinal vortices coming from outside resonates is the third in a row. After the resonator on Earth follows another-the resonator on Mars. Obviously the third resonator (0) for Earth will have the largest volume compared to the other 4 resonators (Figure 2, 0) [9].

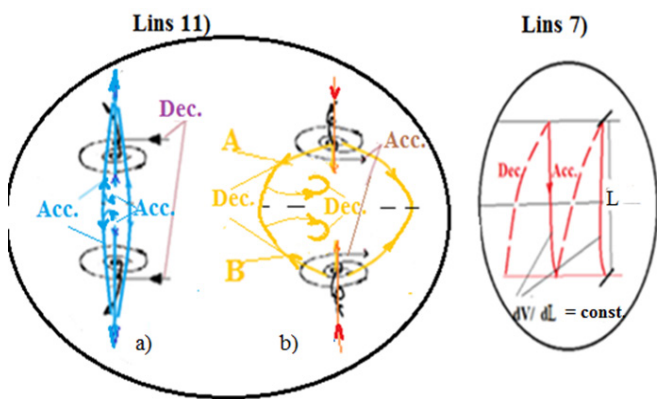


Figure 3: In more detail for lins11 and lins 7

**The wide and short arch:**

When the arch has a large amplitude and less longitudinal vortices up and down are obtained. So they form a wide and short bow (yellow) (Figure3, 11, b). This wide and short bow is bidirectional - up and down. In this way of shortening (according to Law 5) these two shortening parts in two opposite directions decelerate from the surface of the Earth and emit transverse vortices from up to down -to the surface of Earth. The emitted transverse vortices are bent to different directions - one is bent to right, the other is bent to left (Figure 3, lens 11, b).The direction of vortices is observed from up to down.

In Northern hemisphere **the decelerating vortex is bent to left along the fingers of the right hand** (Figure 3, lens 11, b, A). May be this is the reason in Northern hemisphere of Earth the decelerating vortex to rotate to left. For example, plants are rotated decelerating from down to up to left. But the accelerating vortex to be rotated to right.For example, water vortex is rotated accelerating from up to down.

In Southern hemisphere **the decelerating vortex is bent to right along the fingers of the left hand** (Figure 3, lens 11, b, B).

**Result:** In the Northern hemisphere, the transverse wave winds from right to left (Figure3, lens 11, b, A).In the Southern hemisphere, the transverse wave winds from left to right (Figure 3, lens 11, b, B).

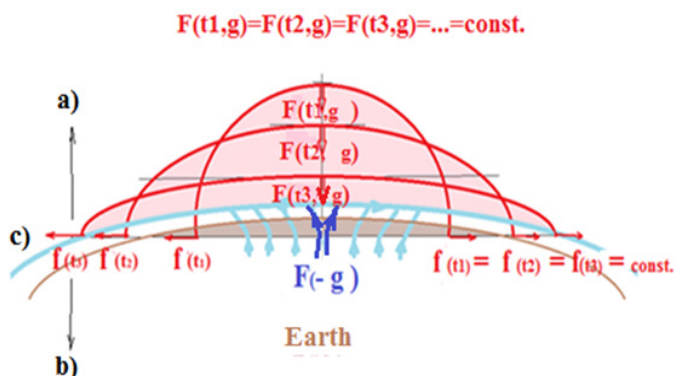


Figure 4: More detail for personal Gravity of planet Earth

**Result:** The elastic pushing force of from up to surface of Earth forms constant Gravity force (Fi (t i, g) of all material bodies to surface of Earth : Fi (t i, g)= const.

$$F (t_1,g)=F (t_2,g)=F (t_3,g)=...= const.,$$

**Result:** The Gravity force does not depend on mass and weight of bodies.It depends only on elastic force of double –bent arc (Figure4a).

**The narrow and long arc:**

We saw before that when the plane wave has a less amplitude above the surface of Earth, the longer longitudinal vortices up and down are obtained and they form a narrow and long bow. This narrow and long bow is bidirectional - up and down. In this way of stretching (according to Law 6) these stretching parts accelerate above the very surface and under surface of the Earth and suck transverse vortices with negative acceleration (-g) from the surface of Earth (Figure 2, lens 11,a) (Figure 4b).

**Result:** The sucking from surface of Earth forms Antigravity pulling from surface of Earth.

**Result:** The Antigravity pulling (-g) is the reason why vegetation grows on the Earth's surface and why the underwater springs from down to surface of Earth.

**The magic of Constant Gravity and Antigravity acceleration**

Basically, the double-bent arch has two endpoints. The reason is that the axis of Earth has two endpoints as well (Figure2, 11).

-When two opposite forces are applied **outwards** at these two endpoints then the process of opening of double –bent arch continues.After that the vortices from the two halves of the arch become accelerating and are directed against each other outwards or the arch get longer (Figure3, lens11,a). This is the reason (according to Law 6) they suck transverse vortices from the surface of the Earth - up. It forms an Anti-gravitational force F (-g), which pulls water and plants up from Earth right (Figure 4b).

-When two opposite forces are applied **inwards** at these two endpoints, then the double-bent arc begins to contract, becoming higher in amplitude and shorter in length.In this phase, the vortices from the two halves of the arch get decelerating and directed against each other inwards. This is the reason (according to Law 5) that they emit transverse vortices towards the surface of the Earth. That is way one vortex is turned to the left (Figure3, lens 11,b, A) and the other to the right (Figure3, lens11,b, B).

- The two opposite forces (fi) (which was applied inwards in the beginning) they **change their directions to outwards**.The directions of these two opposite forces (f 1,f 2, f 3...) at two endpoints of axis of Earth get sideways from the inside- out. The forces (f i) are constant in direction and in size. That is way the double- bent arch begins to stretch, becoming lower in amplitude and longer in length. The force f (t 1) in time t 1 is equal to force f (t 2) in time t 2 and so on, or all forces in time (t i) are equal to constant:

$$f (t_1)=f (t_2)=f (t_3)=...=const., \text{ where } t_i \text{ is current time. (Figure 4c).}$$

-The reason for the constant force (f<sub>i</sub>) along axis of Earth is the constant acceleration on the downslope of the HF teeth. High frequency tooth is an almost triangular pulse with leading edge

and rear tilt. Or the reason for the constant force ( $f$ ) which is proportional to the constant acceleration ( $+g$ ) is the constant length ( $L$ ) of rear tilt:

$+g = \Delta V / \Delta L = \text{const.}$ , where  $L$  is length of rear tilt of the HF tooth (Figure 3, lens 7).

-The result is that the elastic force in perpendicular direction  $F(t, g)$  stays constant as well:

$F(t_1, g) = F(t_2, g) = F(t_3, g) = \dots = \text{const.}$ , where  $t_i$  is current time,  $g$  is gravity constant (Figure 4a). This elastic force  $F(t, g)$  does not depend on the weight of bodies. It sweeps down all bodies located in space around the Earth with constant acceleration ( $+g$ ). The elastic force depends only on parameters of HF impulses which modulate LF base vortex generating Earth.

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