

Gravity System Sun –Earth According Open Vortex Theory

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ABSTRACT

It is known that the Classical Field Theory (1864) is not suitable for uneven and not smooth fields with variable velocity. The author proposes a new Open Vortex Theory which consists of 2 Axioms and 8 Laws. It leads to the following results: The movement in a closed loop is replaced with movement in an open loop or vortex; Evenly movement is replaced with unevenly movement (decelerating or accelerating); During its movement decelerating vortex emits primary free transverse vortices, while accelerating vortices suck in of this same primary free transverse vortices; A transverse vortex in plane (2D) generates a longitudinal vortex in volume (3D) by a special transformation and inverse and so on.

The more extended results show that two transverse vortices (accelerating and decelerating) work in resonance in real Space -Time as mutual orthogonal material pair (example transverse link of Sun-Earth). Two longitudinal vortices (accelerating and decelerating) work in resonance in Gravity Space-Time as mutual orthogonal Gravity pair (example longitudinal link Sun-Earth).

The author describes very complex Gravity relationship between Sun and Earth that makes it as system. The Sun is part of described Gravity pair and is generated by a longitudinal Gravitational Funnel from top to bottom. Funnel resonates in a third in order cylindrical Resonator inscribed inside the sphere of the Sun, because the Earth is third in order planet. Third cylindrical Resonator has maximum volume and maximum Energy, since the diameter is equal to the height. Thus the Sun generates the Earth with maximum Volume and Gravity energy and put it as a special planet compared to the others. The third cylindrical Resonator generates an accelerating transverse Funnel that is launched transversely into Space. After a certain distance, this accelerating transverse vortex becomes decelerating. It wraps around around the Gravitational centers of each of Earth's cross sections. Decelerating much more, it emits transverse Primary vortices towards Gravity centers of each cross section of Earth.

Thus it emits heat and heats the Earth's core. At Gravity center of every cross section a series of longitudinal perpendicular accelerating vortices are generated. They insert into each other in order of their velocity and form a perpendicular accelerating Funnel. The fastest central part that is shoot (bottom to top) by the longitudinal Funnel of Earth generates (top to bottom) planet Uranus. The slower part of this Funnel is sucked in by entrance of the longitudinal generating Funnel of the Sun and form longitudinal link that it closed the circle of longitudinal vortices. The slowest peripheral part- generates the Moon. Thus Uranium and Moon are generated as bodies orthogonal to the Earth - hollow and cold.

The conclusion of author is confirmed by conclusion of the NASA SOHO (Solar and Heliospheric Observatory) mission (ESA's website for SOHO, 2003).

Keywords: Artificial Intelligence, Machine Learning, Nanotechnology, Renewable Energy Materials Science, Physics Applications, Chemical Synthesis, Computational Modeling, Internet of Things (IoT), Deep Learning.

Introduction

The author imitates the structure and links in System of the Sun and Earth. She uses her Open Vortex Theory (Theory of new Axioms and Laws) According it; the Sun is generated by an open vortices or Funnel by open vortices (Axiom1). A decelerating longitudinal Funnel (from

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above - perpendicular downwards) in 3D generates an accelerating transverse vortex (from the inside – out) in 2D (Law 2).

Because transverse vortex is accelerating in the periphery on the Sun the positive acceleration of the transverse vortex becomes very huge.

Because the suction of this accelerating vortex toward the periphery on the Sun (where the acceleration becomes huge) some of the deuterium nuclei from the plasma are sucked in and stick in (Law 6). During this exothermic reaction, helium nuclei are obtained and a lot of heat is released [1].

Result: In Sun the positive acceleration of transverse vortices is a reason but the Cold Nuclear Reaction (deuterium-helium) with emitting the Energy is only one result.

-From one side the central core of Sun rotates at a higher angular rate. The reason is that longitudinal Funnel that generates sphere of Sun (Law2) spins like a drill. It rotates with huge angular speed (ω_{max}). At the same time this longitudinal Funnel has maximal longitudinal(l_o) speed ($l_o.V_{max}$). It sucks in Energy to itself and cools the core of Sun (Law6). Therefore, the core of Sun is cool and rotates faster than periphery (that is warmer and rotates slower).

Result: The core of Sun is cool and rotates faster than periphery.

-From other side in accelerating transverse (tr) vortex angular speed ($tr.\omega_{max}$) in center is bigger than angular speed ($tr.\omega_{min}$) in periphery. The tangential or longitudinal speed ($l_o.V_{min}$) in center is less than longitudinal speed in periphery ($l_o.V_{max}$). But speed ($tr.V_{max}$) of transverse vortex is much less than speed ($l_o.V_{max}$) of longitudinal vortex: ($tr.V_{max}$) < ($l_o.V_{max}$). As much is speed as less is temperature (Law6). Thus periphery ($tr.V_{max}$) of Sun is warmer than center($l_o.V_{max}$) [2].

Result: The periphery is warmer and rotates slower.

Conclusion: The core of Sun is cool and rotates faster than periphery that is warmer and rotates slower.

This conclusion is proved by the conclusion of the NASA SOHO:

Proof: The conclusion of the NASA SOHO (Solar and Heliospheric Observatory) mission (ESA's website for SOHO, 2003) proves that the core of the Sun rotates at a faster rate than the outer zone.

The main reason for this reaction is a positive acceleration inside Sun. There is no such positive acceleration on Earth. The Earth is generated by decelerating vortices (Law1). Thus, the Earth is generated orthogonally to the Sun. The reason is that the Sun and the Earth are mutual orthogonal bodies (Axiom 2).

Conclusion: The Earth has orthogonal construction to Sun.

The Sun send accelerating transverse vortex to Earth (Law1) which, due to the great distance to planet Earth, becomes a decelerating vortex (Law2). It generates the same Earth.

Result: The Earth must have hot core and rotates slower than periphery that is cooler and rotates faster

The fact that the Sun and the Earth are mutually orthogonal Gravitational bodies (Axiom 2) carries a description of both the structure and the mutual connections between them.

When the decelerating generating Funnel launched by Sun to Earth, begins to wind around the Gravity center of the Earth the

perpendicular Funnel is launched by Earth up to Space (Law1) (Figure 2e).

Result: Earth is generated by transverse decelerating Funnel shoot from Sun.

In every cross section of sphere of Earth this decelerating vortex decelerates much more and winds around its Gravity center (G) where generates perpendicular accelerating Funnel up to Space (Law1).

An explanation of structures and links, according Open Vortex Theory

Axiom1, Axiom2 Law1, Law2, Law5, Law6

a) A Classic Axiom

The Classic Axiom is introduced by Maxwell (1864). It is in base of Classic Field Theory. It states that: $\text{div rot } E = 0$, where divergence along a rotor of tangent vector E is equal to zero. This means that if there is not divergence the velocity of movement is constant ($V = \text{const.}$) than rotor is closed. It ideal describes Electromagnetic field as even and smooth field (Figure 1a) [3].

But it doesn't describe uneven and not-smooth field as Gravity field, where velocity of movement is not a constant ($V \neq \text{const.}$). Thus, the author is forced to change this Classic Axiom.

b) A New Axiom 1

Axiom1: The movement of vector E with monotone-decreasing or monotone-increasing velocity(V) becomes along an Open vortex: $\text{div (Vor}E) \neq 0$: The new Axiom1 states that if velocity is uneven ($V \neq 0$) the vortex is Open. Thus, if there is an Open vortex, it is unevenly, or velocity is accelerating or decelerating (Figure 1b, c, e) [2]: $\text{div (Vor }E) > 0$ -accelerating, $\text{div (Vor }E) < 0$ -decelerating.

Result: There must be 4 types of motions of vortices: a transverse vortex, that can be accelerated or decelerated and a longitudinal vortex that can also be accelerated or decelerated.

We are accustomed to the wrong image of a spiral with a constant distance between the turns (Figure1a). This is an "unreal" spiral. If it is a spiral, it must be opened and the movement is with variable velocity ($V \neq \text{const.}$). This means than the spiral becomes with variable steps between turns and becomes eccentric. The reason is in the acceleration (Figure1b).

Result: The open monotonically varying spiral of vortex must be eccentric.

For example, in" real" decelerating vortex $E1 > E3$ and the Geometric Center (O) aims to move to the larger vector E1 (up). In the same vortex $E3 > E4$ and at the same time the Geometric Center (O) aims to move to the larger vector E3 (to the left). Therefore, the Geometric Center (O) will move to a second quadrant (II) or to the Gravity Center(G) (Figure 1b) [4].

At every (i) point p (i) of a decelerating cross vortex E there are two simultaneous movements: velocity vector (V) and amplitude of the transverse vortex (W).

Result: Vector velocity (V) and open transverse vortex (W) exist simultaneously in every point (i) of Open vortex (spiral) as qualitatively different movements.

Both movements are qualitatively different from each other - the velocity (V) is a vector with variable **length**, and the open vortex(W) is a loop with variable **acceleration**.

c) **New Axiom 2**

Axiom 2: Two vortices of one complementary pair in one direction work in resonance.

This means that two objects as vortices transfer Energy and Matter both in transverse loop and in longitudinal loop and these loops are mutual orthogonal -in Time and in Space.

Result: Two vortices (objects) in one system are mutual orthogonal.

Two vortices of one complementary pair in one direction in 2D: $E = +A + iV$; $E = +V + iA$, or two vortices of complementary pair in opposite direction in 2D: $E = -A - iV$; $E = -V - iA$, exist simultaneously in the same time in 3D [4-6].

Result: Straight ($E = +A + iV$; $E = +V + iA$) and inverse ($E = -A - iV$; $E = -V - iA$) movements exist simultaneously.

This means that when first generates transverse vortex as Potential Energy and consumes longitudinal vortex as Kinetic Energy (Figure2b), then the second inverse -consumes transverse vortex as Potential Energy and generates longitudinal vortex as Kinetic energy (Figure1c).

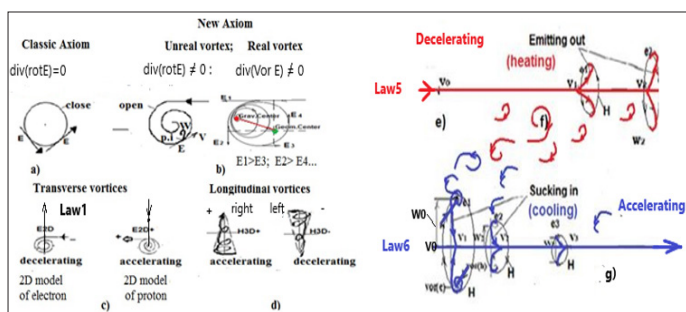


Figure 1: The Classical Axiom is Replaced by a New Axiom; a) Classic Axiom as Closed Loop; b) New Axiom as Opened Loop (vortex); c) Transverse Vortices (Decelerating and Accelerating); d) Longitudinal Vortices (Accelerating and Decelerating); e) Decelerating Main Vortex Emits Decelerating Primary Vortices; f) Accelerating Main Vortex Sucks Accelerating Primary Vortices.

Example for Sun and planets: The mutual orthogonal pair are the third resonator inside Sun (corresponding to Earth) (Figure2b) and third planet Earth (Figure2a). This mutual orthogonal pair Sun-Earth exists simultaneously with the inverse system - second resonator inside Sun (corresponding to Venus) and second planet Venus (not Figure) (Axiom2).

Result: The system in straight direction (3th resonator inside Sun – 3th planet Earth) exists at the same time with the system in opposite direction (2th resonator inside Sun- 2th planet Venus).

The planet system demonstrates existing of these two mutual inverse links of these mutual orthogonal objects. The planet system explains Axiom2 more clearly than the system of elementary particles. For elementary particles the straight direction system is proton-electron (Figure1c). But in inverse direction system is antiproton-positron.

d) **Law 1**

Law1: An open decelerating transverse vortex (E2D-) inward generates an open accelerating longitudinal vortex (H3D+)

outward. This action takes place from the Gravity center (G) of decelerating transverse vortex (E2D-) by transverse- longitudinal operator for transformation $\Delta 1$ -:

$$\Delta 1- \text{Vor} (E_{2D-}) \Rightarrow \text{Vor} (H_{3D+})$$

Results: Law1 describes model of inner planets between Sun and the asteroid belt.

They are formed by decelerating transverse vortex or Funnel (from out to inward) and then are generates an accelerating longitudinal Funnel upward (Law1) (Figure 1b). The Earth as third in order of inner planets is generated by the third Cylindrical Resonator inside Sun.

Result: The third Cylindrical Resonator inside Sun generates the third on order planet Earth.

It has been mathematically proven that a cylinder with a height equal to the diameter inscribed in a sphere has a maximum Volume.

Result: The third cylinder is inscribed in a sphere of Sun has a maximum Volume.

For comparison: The first (the innermost) resonator corresponding to the first (innermost) planet Mercury. It has a big size in height and less size in width. Thus, the resonator of Mercury similar to an upright parallelepiped. The fourth resonator is the resonator of Mars. The resonator of Mars has a big size in width and less size in height. Its appearance of a lying parallelepiped (matchbox type). Both resonators have almost the same Volume but they consist very different Energies in quality. For example: Mercury has bigger longitudinal Energy (height) and less transverse Energy (width). This makes it with bigger orbital velocity, less transverse mass and less angular speed. But Mars has less longitudinal Energy (height) and bigger transverse Energy (width). This makes it with bigger transverse mass, less orbital velocity and bigger angular speed.

Result: The result is that generated sphere of Earth has maximal Volume.

The fact that the third resonator inside the Sun, corresponding to the third planet Earth, has the maximum volume compared to the other resonator. This is the most privileged position of the Earth. Result: Earth has a privileged position between inner planets.

This means that the Earth receives from the Sun the maximum Potential Energy in the form of transverse vortices and maximal Kinetic Energy in form of angular and orbital speed.

e) **Law 2**

Law2: The open decelerating longitudinal vortex (H3D -) downward generates an open accelerating transverse vortex (E 2D+) outward. This action takes place in the Gravity center (G) of accelerating transverse vortex (E2D+) by longitudinal-transverse operator for transformation $\Delta 2$ -:

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

Results: Law2 describes model of outer planets, outer than asteroid belt.

The outer planets are generated by Decelerating Funnel from up to inward along height. Then are emitted a bigger accelerating vortex in width, along radius. The reason is that the outer planets (Uranium) are mutual orthogonal to inner planets (Earth). And satellite of inner planets (Moon) is mutual orthogonal to inner planets (Earth). Also, satellite of outer planets (Titanium) is mutual orthogonal to outer planets (Uranium) (Axiom2).

Result: Law2 describes the model of satellites of inner planets.

The Moon is mutual orthogonal to Earth. Earth is generated by transverse vortex (Law1) from Sun. The Moon is generated by longitudinal vortex (Law2) from Earth. Thus, Law1 is mutual orthogonal to Law2.

Result: Law2 describes the model of Moon as Earth 's satellite.

The satellites Phobos and Deimos are mutual orthogonal to Mars. Mars is generated by transverse vortex (Law1) from Sun, but Fobos and Deimos are generated by longitudinal vortex (Law2) from Mars.

f) Law 5

Law5: The deceleration vortex in 3D is described with a system of 4 nonparametric equations in which: longitudinal velocity (V) decreases in (n) portions (ψn) times; the angular velocity (ω), the amplitude (W), the number (N) of Primary transverse vortices in a wheel, increase in (n) portions (ψn) times:

$$V(t)^2 = V_0(V_0 - V(t)), W(t)^2 = W_0(W_0 + W(t)), \\ w(t)^2 = w_0(w_0 + w(t)), N^2 = N_0(N_0 + N),$$

where the roots v_n, w_n and ω_n and n are expressed as: $v_n = (1/\psi^n)$. $V_0, \omega_n = \psi^n, \omega_0; w_n = \psi^n, W_0, [N_n] = \psi^n, N_0$; linear velocity V_0 is the starting value of V_n , amplitude of cross vortex W_0 is the starting value of W_n , angular velocity ω_0 is starting value of ω_n , number N_0 is starting value of N_n ; $[N_n]$ is the closest integer, v_n, w_n and ω_n are periodic roots with period n ; v_n, w_n and ω_n are mutual orthogonal that fulfill the requirement for orthogonal: $v_n \cdot w_n = V_0 \cdot \omega_0; n = 0 \div \infty; \psi$ is a Golden proportional that fulfills the requirement: $\psi - 1/\psi = 1$ [5-7].

Result: A decelerating vortex emits Primary decelerating transverse vortices as decelerating Quanta.

Law 5 show that a decelerating vortex with a velocity vector (-V) emits to the environment decelerating vortices with increasing amplitude (+W) (because of positive sign (+) in second equation. The amplitude (+W) increases in perpendicular direction to the velocity vector (-V). In decelerating vortex amplitude of emitted Primary vortices (+W) increases only if it is directed from the inside to the outside (Figure 1d, e).

Result: The Law5 describes nonparametric process by the Golden proportion ψn .

At a decelerating vortex vector velocity (-V) is transformed according to internal law as Law 5 ($v_n = (1/\psi n)$). $V_0, \omega_n = \psi n$. W_0 into the amplitude(+W) of the transverse vortex (Figure 1e).

Results: Law5 describes left rotating accelerating wheels (if observer is opposite to the movement).

The emitting of decelerating vortices to environment in perpendicular direction forms so called "quanta" "and this process is called "quantum". According to the Law 1 and Rule of the Right Hand, the Primary decelerating transverse vortex (e) generates to outside (to left) a Primary longitudinal vortex (h). So, at every (i) point forms left rotating wheel perpendicular to the velocity (V). Because of increasing of the amplitude (+W), the angular velocity (+ ω) and the number of transverse vortices (+N) it forms decelerating, thickening and expanding left rotating Funnel in which: $W = \max; \omega = \max; N = \max$ (Figure 1d, g).

Result: Law5 describes accelerating, thickening and

expanding left rotating, decelerating Funnel in which: $W_{\max}; \omega_{\max}; N_{\max}$.

Two decelerating vortices are repelled due to emitting outwards of transverse vortices.

Result: Two or more decelerating longitudinal vortices repel each other.

The reason is the pushing of Primary decelerating transverse vortices to outside.

f) Law 6

LAW6: The acceleration vortex in 3D is described with a system of 4 equations in which: longitudinal velocity (V) increases in (n) portions (ψ^n) times, the angular velocity (ω), the amplitude (W) and the number (N_n) of Primary transverse vortices in a wheel, decrease to zero in (n) portions (ψn) times:

$$V(t)^2 = V_0(V_0 + V(t)), W(t)^2 = W_0(W_0 - W(t)), \\ \omega(t)^2 = \omega_0(\omega_0 - \omega(t)), N^2 = N_0(N_0 - N_n),$$

where the roots v_n, w_n and ω_n and N_n are expressed as: $v_n = (\psi^n)$. $V_0, \omega_n = (1/\psi^n), \omega_0; w_n = (1/\psi^n), W_0, N_n = (1/\psi^n), N_0$; linear velocity V_0 is the starting value of V_n , amplitude of transverse vortex W_0 is the starting value of w_n , angular velocity ω_0 is starting value of ω_n , number N_0 is starting value of N_n ; ψ is a Golden proportion that fulfills the requirement: $\psi - 1/\psi = 1$; v_n, w_n and ω_n are periodic roots with period n ; v_n, w_n, ω_n are mutual orthogonal that fulfill the requirement for orthogonal: $v_n \cdot w_n = V_0 \cdot \omega_0; n = 0 \div \infty; [5-7]$;

Result: The Law6 describes a nonparametric process by Golden proportion $(1/\psi^n)$.

At an accelerating vortex vector velocity (+V) (first equation) is transformed into the amplitude of the transverse vortex (-W) (second equation). The increasing in speed (+ V_0) is transformed (ψ^n, V_0) into a decreasing in the amplitude (- W_0) of transverse vortices ($1/\psi^n, W_0$).

Results: The accelerating vortex suck in free primary cross vortices.

When an outer accelerating vortex passes through these Primary transverse vortices, according Law5 it will suck in them. As a result, the accelerating vortex will increase its positive acceleration, mass and Power. The reason is that it adds the mass and Energy of the Primary vortices. An accelerating vortex with a velocity vector (+V) suck in Primary accelerating vortices with decreasing amplitude (-W) in perpendicular direction because of sign (-) in second equation. The sucking of accelerating transverse vortices from environment in perpendicular direction forms so called "quanta" "and this process is called "quantum" (Figure 1f).

Result: Accelerating vortex form decelerating right rotating wheels if see opposite to movement.

According to the Law1 the Primary accelerated transverse vortex generates (sucking) inward to it's a Primary longitudinal vortex (h) from the outside to inside. Thus, is formed at each point (i) a right rotating wheel. Because of the amplitude (-W), angular velocity (- ω) and the number of transverse vortices (-N) decreases it forms accelerating, stretching, narrowing, left rotating Funnel in which: only $V = \max$, but $W = \min, \omega = \min, N = \min$ (Figure 1d, g).

Result: The accelerating vortices form accelerating, stretching, narrowing, right rotating accelerating Funnel in which: $W_{\min}, \omega_{\min}, N_{\min}$.

At last, point the accelerating Funnel stops to rotate: $W=0$, $\omega=0$, $N=0$, but its longitudinal speed is maximal (V_{\max}).

Result: The final of accelerating Funnel does not rotate ($W=0$, $\omega=0$, $N=0$). It only moves straight with maximal speed ahead $V=\max$.

Due to the suction of Primary transverse vortices two or several accelerating vortices attract each other. They, insert one in another and form an accelerating Funnel.

Result: Two or several accelerating longitudinal vortices attract each other inserting one in another and form an accelerating Funnel.

In center inserts the fastest vortex, outside rotates vortex with less velocity and at periphery rotates vortex with the smallest speed. The reason for attraction is increasing the velocity with positive acceleration and decreasing the amplitude of Primary transverse vortices with positive acceleration as well.

Description of Gravitational Sun-Earth system based on

Open Vortex Theory

The proposed Sun-Earth system was created on the basis of Open Vortex Theory. It should also be emphasized that the processes are very generally and roughly described. In reality the constructions and relationships are considerably more complex.

a) Generating

The sphere of the Sun is generated by a longitudinal Funnel 3 coming perpendicularly from 3D Space to Volume. (Figure2c (1)). It enters a dense medium, begins to delay and form a series of transverse vortices to 2D planes. This decelerating Funnel rotates to the right, if observed in the direction of movement. Due to viscosity, adhesion and cohesion of the medium, the individual transverse vortices lay lag behind one after other in Time:

The second lay lag outside the first in Space The third lay lag outside the second in Space and so on. This lag becomes increasing distance. Thus, when we link the time points in time, a reverse wave is obtained that is accelerating and has reverse direction -to the left. Except that it has inverse direction, it expands its diameters in transverse direction. Thus, the Reverse transverse wave is emitted from Sun along its radius (Law2).

Note: Reverse wave is not described in Figure.

The longitudinal Funnel that generates Sun has in its center a longitudinal vortex with maximal longitudinal velocity: $V=\max$. It sucks in the Primary transverse vortices and cool the core of Sun (Law6) (Figure 2(3-4)).

Result: Core of Sun is cool.

The transverse Reverse wave that generates Sun is result from rotation of longitudinal Funnel according Law1. At start it has a maximal angular velocity: $\omega=\max$. Toward periphery angular speed is minimal: $\omega=\min$. This is the reason angular speed in center of Sun to be faster than rotation speed in periphery.

Result: Center of Sun rotates faster than the periphery.

b) Stratification

The decelerating longitudinal Funnel is stratified into 4

cylindrical resonators, corresponding to 4 inner planets. The resonators filter and amplify a certain complex signal with special characteristics: angular velocity (ω), longitudinal velocity (V), amplitude of transverse vortices (W) and so on.

Result: Longitudinal Funnel that generates Sun is stratified into 4 cylindrical resonators.

The third cylindrical resonator corresponds to the third planet in a row of internal planets - the Earth. The diameter (d) of the third cylinder is almost equal to its height(h): $d \sim h$ (Figure2, c).

Result: Earth is generated by third cylindrical resonator that has diameter equals to height

It is known that such kind of a cylinder, inscribed in a sphere has a maximum Volume. Earth receives from the third cylindrical resonator of the Sun maximum complex Energy: longitudinal (Kinetic Energy) and transverse (Potential Energy).

Result: Third resonator has maximal Volume as cylinder inscribed into sphere of Sun.

Because Earth is the third planet in order, it has a maximum volume and density. This is the reason the third cylindrical resonator to generate a maximum low-frequency transverse Funnel from in to outward of Sun. Thus, Earth receives maximum transverse and longitudinal Energy from the Sun.

Result: Planet Earth occupies a privileged position among the inner planets.

The maximum low -frequency transverse and longitudinal Energy is the reason Earth to have maximal volume and density [1].

Result: Earth has maximal volume and density as low-frequency (LF) Energy of generating Funnel.

In addition, in third cylindrical resonator an additional high-frequency pulsation with a maximum amplitude is generated. This maximum high-frequency (HF) amplitude forms the maximum own Gravitational Field of the Earth's [8].

Result: Also, Earth has maximal Gravitational field as amplitude of high-frequency (HF) pulsation of generating Funnel from Sun.

The entering to Sun generating Funnel and the Funnel exiting from the third resonator that launches from the Sun to the Earth are invisible (Figure 2c). These Funnels are invisible to an outside observer. The reason is that the transverse light waves form diffraction and surround a thread of longitudinal waves of Funnels. The light waves continue their path in the previous direction and speed (c). The light waves are not reflected by the longitudinal waves and thus they are invisible to an objective observer.

Result: The longitudinal Funnel entering to Sun and transverse Funnel exiting of Sun are invisible.

c) Transverse Closed Circle and Longitudinal Closed Circles

At first, exiting from the Sun, generating transverse Funnel is accelerating, and after a certain distance (D) it becomes retarding. This decelerating Funnel begins to fold transversely in 2D and rotate around some center in Space, called further a Gravitational center of the Earth. It is wound as decelerating spiral from outside to inside and generates in the Gravitational center a perpendicular accelerating longitudinal Funnel from the center - up to Space (Law 1). At the same time when the decelerating Funnel begins to wind around the Gravity center of the Earth, it emits Primary transverse vortices toward the

Gravity center (G). Also, it emits outwards from the Earth to Sun and forms a Reverse link with Sun. Thus, a closed transverse circle of emitted Primary transverse vortices is obtained (Law7) (Figure 2(e-g)).

Result: The transverse vortices form close transverse circle between Sun and Earth.

The Earth shoots the central accelerating Funnel from the North pole. One of accelerating vortex inserted in Funnel is sucked by the one of peripheral vortex of the generating inlet Funnel towards by the North pole of Sun (Figure2(6-3)). On the other hand, such more peripheral vortex is emitted from the South pole Sun and is sucked by the South pole of the Earth. Therefore, a closed chain of longitudinal vortices is made (Law8) (Figure2(6-3,4-5)) This closed chain of longitudinal vortices is perpendicular to the closed chain of transverse vortices The reason is that this longitudinal chain (Figure2 (6-3,4-5)) is orthogonal to previous transverse chain (Figure 2(e-g)).

Result: A closed chain of longitudinal vortices is formed which is perpendicular to the closed chain of transverse vortices.

d) Generating of Planet Uranium, Satellite Moon and Magnetic Field of Earth

#The central vortex of this longitudinal accelerating Funnel, that is shoot from Earth upward to Space, has maximum longitudinal velocity ($+V_{max}$), maximal positive acceleration ($+a_{max}$) and maximum Kinetic Energy ($E_{k_{max}}$) (Law 6). It is launched towards the Space outside the asteroid belt. There somewhere it starts to slow down and its longitudinal velocity aims to zero. It is transformed into transverse lateral pressure which generates accelerating from inside to outside transverse vortices (Law 2).

This sphere is generated from center to outside by accelerating transverse vortices. this planet is third outer from asteroid belt. This is how the hollow and cold body of Uranium is obtained (Figure2).

Result: The third planet outer of Asteroid belt is Uranium.

According Axiom2 outer planet Uranium is completely orthogonal to the Earth. The reason is that they both are thirds in order planets-Earth is inner planet, but Uranium is outer planet.

Result: Earth and Uranium are mutual orthogonal planets.

We mention already that the central vortex in longitudinal accelerating Funnel shoot by Earth upward to Space, enter from up to bottom and generates from center to outside body of outer planet Uranium.

Result: The central fastest longitudinal vortex shoots by Earth enter from up to bottom and generates transversely a planet Uranium from center to periphery.

Thus, the fastest longitudinal vortex that is launched from the Earth, after a certain distance, becomes delayed. Somewhere in the Space where Uranium is now located, it folds longitudinally and from top to bottom generates the planet Uranium. The maximum speed and the maximum Kinetic Energy of the longitudinal vortex from the Earth is the reason why the volume of Uranium is greater than the volume of the Earth and its density is less than the density of the Earth.

Result: The volume of Uranium is greater than volume of Earth, density is less than density of Earth

Because planet Uranium is generated by accelerating transverse

vortex from the inside (center) to out(periphery) it is a hollow and cold planet (Law2)

Result: Planet Uranium has hollow and cold body.

#The even more outer vortex shoot by Earth is sucked by Sun and form Reverse wave (Figure2(6-3)).

Result: The Sun sucks in a Reverse wave from Earth

An even more -outer vortex and less powerful vortex which the Earth shoots of this acceleration Funnel, is folded from top to bottom and generates the body of the Moon from the Gravity center of Moon to Earth (Law 2) (Figure2(2)).

Result: The outer vortex in Funnel shoot by Earth upward to Space, enter from up to bottom and generates from center to outside a satellite Moon.

Because Moon is generated by accelerating transverse vortex from the inside (center) to out(periphery) it has a hollow and cold body (Law2)

Result: Satellite Moon has hollow and cold body.

The slower longitudinal vortex that is launched from the Earth, after a certain distance, becomes delayed. Somewhere in the Space where Moon is now located, it folds longitudinally and from top to bottom generates the satellite, Moon. The slower speed and the less Kinetic Energy of the longitudinal vortex from the Earth is the reason why the volume of Moon is much less than the volume of the Earth and its density is less than the density of the Earth

Result: The volume and density of satellite Moon are much less than volume and density of Earth.

This slower outer vortex from longitudinal Funnel has less acceleration. This is the reason Moon is obtained, smaller than Uranus. But Moon has also a hollow and cold body. The reason is that it is also orthogonal to the Earth (Axiom 2).

Result: Satellite Moon is orthogonal to planet Earth.

Because longitudinal vortex is slower, the transverse vortex of the Moon from inside to outside is also very weakly accelerating (Law2). Thus, the transverse accelerating Primary vortices which suck in and cool the body of Moon, have small amplitude and a small acceleration (Law 6). Thus, Moon has smaller Volume and density than Uranium.

Result: The Moon has much less volume than Uranium.

For Moon except small acceleration the transverse vortices in direction from center to periphery (Law2) have also a small curvature. This is the reason the Moon rotates very slowly around its axis so that a Moon's angular speed (ω) is equal to the orbital speed (V) of Moon: ($\omega_{Moon} = V_{Moon}$).

Thus, only one half of Moon's sphere is observed from Earth.

Result: Moon faces to Earth only half of her sphere.

#The very peripheral slowest series of longitudinal vortices are launched by North pole of Earth and are folded around the Earth. This series is sucked by the South pole of the Earth and forms the Magnetic field around it (Not Figure).

Result: The slowest vortex shoots by Earth 's longitudinal Funnel form Magnetic field around it.

We demonstrate that Earth is orthogonal to Uranium and Moon, also Sun is orthogonal to Earth (Axiom2).

Result: The pairs: Sun- Earth, Earth - Moon and Earth - Uranium are mutual orthogonal.

e) Features of Sun

The central fastest vortex inside the longitudinal funnel is highly

accelerating and sucks Primary transverse vortices inwards (Law6) It cool the core of Sun. The reason is that positive acceleration in central longitudinal vortex is maximal.

Result: The core of Sun is cool.

The hole longitudinal Funnel rotates core of Earth. This is the reason the transverse vortices to start rotation. In center angular speed is much more than angular speed in periphery. Thus, the center of Sun has rotation speed (ω_{max}) bigger than in periphery part (ω_{min}),

Result: The center of Sun has rotation speed (ω_{max}) bigger than in periphery part (ω_{min})

The reason is that the generating transverse vortex is accelerating from center with (ω_{max}, V_{min}) to periphery (ω_{min}, V_{max}). Towards the periphery, the linear velocity increases (+V) in every next point by (ψn) times [4,5,9].

Result: The center of Sun is cool and rotates faster (ω_{max}) than in periphery part (ω_{min}),

And finally, the linear velocity (V) reaches large values ($V. \psi n$) (Figure2h).

Result: The final linear speed (V) reaches maximal value ($V. \psi n$) more than light speed (c).

This is the reason this maximal speed to suck in Deuterium (2H) and as result to fuse a helium (He) and to explodes and radiates warm and light Energy outward. This phenomenon is known as Cold Nuclear Fusion.

Result: The maximal linear speed ($V. \psi^n$) is reasoning the Cold Nuclear Fusion is a result.

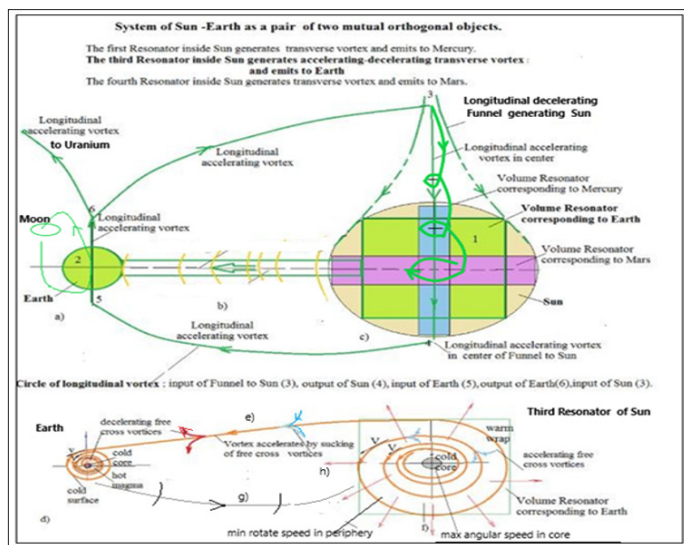


Figure 2: The system Sun (1) – Earth (2); a) Model of Earth as toroid; b) Link between Sun and Earth; c) Model of Sun as ball with 4 resonators inside; d) Model of Earth as decelerating transverse vortex from out to in; e) Accelerating-decelerating Funnel between Sun and Earth; f) Model of Sun as accelerating transverse vortex from inn to out; g) Reverse emission from Earth to Sun

Result: The beams from Sun as accelerating longitudinal vortices do not emit heat to environment.

The reason is that they are accelerating, suck in warm and reach maximum linear velocity (V_{max}) and they carry cool. The decelerating vortices carry heat; the accelerating vortex carries cool [4,9].

Result: The beams from Sun as accelerating longitudinal vortices suck in warm and cool the periphery of Sun.

The source of heat is only the decelerating vortices (Law5). But in Sun there are not decelerating vortices, there are only accelerating transverse vortices [1,7]. Therefore, there is no reason why the internal generation of the Sun to cause the radiating heat. The only way the Sun emits heat is through phenomena of Cold Nuclear Fusion. Actually, it emits a large amount of heat to Earth.

Result: In Sun heat is released only by the exothermic Nuclear Reaction between two deuterium (2H) resulting in helium (He).

The reason is that the heat is released only from the exothermic Nuclear Reaction between two deuterium resulting in helium (Figure2, h).

Result: The positive acceleration of accelerating transverse vortex of Sun sucks and sticks the deuterium atoms and after this helium is produced and heat is released.

This phenomenon in the Sun has not yet been fully studied and explained.

Result: The positive acceleration is a reason but Cold nuclear fusion with exothermic emission of warm and light Energy, is only result.

g) Phenomenons

#The phenomenon of mutual Orthogonal objects: This phenomenon is well described in this article (Axiom2). It is shown that the Sun (Law2) has an orthogonal structure to the Earth (Law1). And the Earth (Law1) has an orthogonal structure to the outer planet Uranus (Law2) and to Earth's own satellite the Moon (Law2). The reason is that Law1 is orthogonal to Law2. This fact explains why the Sun (Law2) has a cold core and its center rotates faster than the periphery, and the Earth (Law1) has inverse- a cold surface and a hot core. Also, it is explained why planet Uranium and satellite Moon have colder, hollow and rarer core and denser periphery. Nevertheless, Uranium has bigger volume than Moon (Figure 2(1 – 2)).

#The Phenomenon of Cold Nuclear Fusion: The cause of the nuclear fusion in the Sun is the acceleration of transverse accelerating vortices (Law2, Law6). But the result is an exothermic reaction.

If the acceleration of the longitudinal vortices is high enough and the concentration of deuterium atoms is sufficient big, then from every 2 absorbed deuterium ($2H$) atoms 1 helium (He) atom will be synthesized, with the release of a large amount of heat. The reason for the emission of excess Energy (as heat) in the new atom helium is that the distances between the two electrons and the nucleus are shortened (due to Law6). The reason is that accelerating vortex suck in the Space between atoms and the radii of the electrons and protons themselves shrink and they interact with each other (Figure 2 h).

#The Phenomenon of Reverse Wave in Core: The core of Sun rotates to right by transverse wave. Due to adhesion and cohesion, the transverse rotating to right the core generates a left transverse vortex in the form of a Reverse wave. This phenomenon of the reverse wave is not discussed in detail in this article (Not Figure).

#The phenomenon of mutual orthogonal closed circles of transverse and longitudinal vortices between Sun and Earth:

This phenomenon is also poorly described in this article. But its importance is such that it explains the complete self-organization of the perpetual motion machine (Figure2e, g).

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