Review Article

Properties of the New Time-space with a Constant Path (Sconst.)

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Abstract

It is known that the material world in which we live is in time-space with constant time (Tconst). It is made up of transverse vortices that propagate in space at a constant speed (Vconst.) and only the distance is variable (S var.). According to the axiom which makes true the Maxwell's theory of the electromagnetic field, these transverse vortices also have a constant tangential velocity along the motion of the vortices [1]. That is why they form so called "closed vortices " and all their points move with in one and the same time (Tconst.). That is way the transverse vortices form so called real time-space with T = const.

The new time-space, described in previous works by the same author, is made up of longitudinal (not transverse) vortices, which have a variable (Vvar.) (not constant) velocity, i.e. they can be either accelerating or decelerating [3,4]. These longitudinal vortices with variable velocity (Vvar.) are described by the theory of New Axioms and Laws by the same author [2].

According to this theory, the accelerating longitudinal vortices suck transverse vortices from out and as they attract to each other and concentrate themselves to a funnel-shaped package. So they form accelerating funnel in S = const.This it happens by inserting the fastest vortex (Vmax.) in the center of the funnel, that moves with a minimum number and minimum diameter of coils. It passes the fixed path (Sconst.) with minimum time (Tmin.) and therefore it appears first in time. But the slowest vortex (Vmin.) is wound up in the periphery of the funnel, that is winding with the maximum number and maximum diameter of the coils. Therefore passes the same fixed path (Sconst.) with maximum time (Tmax.) and it appears last in time.

The decelerating longitudinal vortices emit transverse vortices to outside and repel each other by distracting and scattering their longitudinal vortices sideways.So they form decelerating funnel in S = const.

The accelerating and the decelerating funnels of longitudinal vortices (in Sconst. time-space) plays the role of a link between the decelerating and accelerating transverse vortices (in Tconst. time-space).

The properties of the new structures of longitudinal vortices are very unexpected and exclusive useful. For axample the gravity attraction is due to the acceleration along longitudinal vortices but not to space distortion. The real time in time-space T = const ($Treal_{Tconst}$) has an opposite direction to the real time in time-space S = const ($Treal_{Sconst}$) and so on.

Keywords: Divergence; Longitudinal Vortices; Maxwell's Laws

Introduction

The classic axiom

In the Theory of the Electromagnetic Field the Maxwell's laws (1864) certify by one single Axiom. It postulates that the movement of an electric vector E in a closed loop is evenly, where the movement of the vector E in a closed loop (rot E) with zero divergence (variation) of the vector E is equivalent to evenly movement or to movement with constant velocity V.

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$$\nabla . \left(\nabla \times \mathbf{E} \right) = 0$$

or div rotE = 0, where (rot E) is the movement of the vector E in a closed loop; div (rot E) is the divergence (the variation in increase or decrease) of the vector E during its movement in a closed loop (rot E) [1].

New axiom 1

The moving of vector E with monotone decreasing or increasing velocity describes an open loop div (rotE) ≠ 0. or vortex div (VorE) ≠0 [2].

Result

It exists a transverse vortex (div (VorE) ≠ 0) as an open loop (div (rotE) ≠ 0) in 2D with monotone variable velocity and it exists a longitudinal vortex (div (VorH) ≠ 0) as an open loop (div (rotH) ≠ 0) in 3D that moves with monotone variable velocity.

Result

It can exists a transverse decelerating (div (VorE) <0) or an accelerating (div (VorE)> 0) vortices in 2D and a longitudinal decelerating (div (VorH) <0) or an accelerating (div (VorH)> 0) vortex in 3D.

The New Laws for open vortices

Law 5: The open decelerating vortex in 3D is described with a system of 4 equations in which: when the longitudinal velocity (V) decreases in (n) portions (ψ^n) times; the angular velocity (w), the amplitude (W) and the number (N) of cross vortices increase in (n) portions (ψ^n) times:

I $V^2 = V_0 (1 - V)$, ----1.

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

I $w^2 = w_0 (1 + w)$

I $N^2 = N_0 (1 + N)$

Where v_n, w_n are periodic roots with period n; v_n, w_n are mutual orthogonal that fulfill the requirement for orthogonality: $v_n . W_n = V_0 . W_0$, $v_n . \omega_n = V_0 . \omega_0$; $n = 0 \div \infty$; the current roots v_n, w_n and ω_n and n_n are expressed as: $v_n = (1/\psi^n)$. V_0, $w_n = \psi^n . W_0$, $\omega_n = \psi^n . \omega_0$ $[n_n] = \psi^n . N_0$; linear velocity V_0 is the starting value of V_n, amplitude of the 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, $[n_n]$ is the closest intege; ψ is a proportional that fulfills the requirement: $\psi-1/ \psi = 1$ (Figure 1a) [6-9].
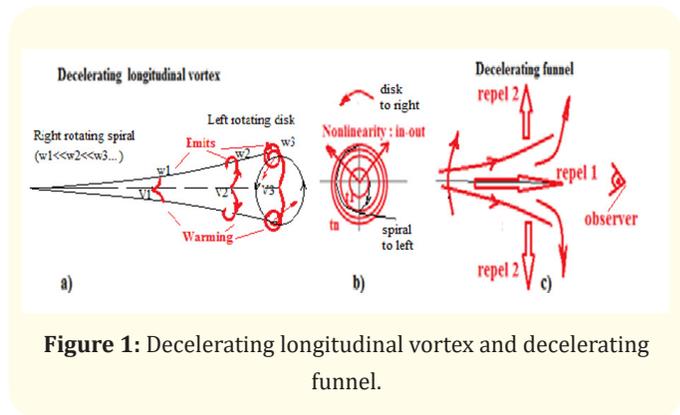

Figure 1: Decelerating longitudinal vortex and decelerating funnel.

- **Result:** A decelerating vortex (E_{2D}-) with a decreasing velocity (V) emits to the environment decelerating vortices with increasing amplitude (W) (because of sign + in second equation of system above) (Figure 1a).

- **Result:** The amplitude (W) increases in perpendicular direction to the velocity vector (V) (Figure 1a).

- **Result:** The amplitude (W) increases only if it is directed from the inside to the outside, i.e. if the decelerating vortex emits outward cross vortices with increasing amplitude (W) (Figure 1a).

- **Result:** According to the Rule of the Right Hand the emitted decelerating cross vortex (E) in 2D generates at the center from in to outside in 3D a longitudinal vortex (H). So at every n_i point forms left rotating wheels (disks) in space perpendicular to the velocity (V). The rotation is left (counterclockwise,-), when observer watches against the movement) (Figure 1a).

- **Result:** But the decelerating longitudinal vortices has right rotating spiral in time (clockwise, +) (Figure 1a).

- **Result:** The first wheel from the self accelerating disks has minimum number, minimum amplitude (A_{min}) of emitted vortices and minimum angular velocity (ω_{min}). The last wheel from the self accelerating disks of decelerating vortex in 3D has maximum number (n_{max}), maximum amplitude (A_{max}) of emitted vortices and maximum angular velocity (ω_{max}).

- **Result:** Because of increasing of the amplitude (W) the angular velocity (w) and the number of cross vortices (N) it is formed thickening and expanding left rotating funnel in which: W_{max}; w_{max}; N_{max}.

- **Result:** Two or more decelerating longitudinal vortices repel each other. The reason is due to the emission of cross

vortices from center to outside. They form repulsive decelerating tube in form a defocusing funnel.

Law 6

The accelerating vortex in 3D is described with a system of 4 equations in which: when the longitudinal velocity (V) increases in (n) portions (ψ^n) times, the angular velocity (w), the amplitude (W) and the number (N) of cross vortices decrease in (n) portions (ψ^n) times:

I $V^2 = V_0 (1 + V)$, ---------2.

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

I $w^2 = w_0 (1 - w)$

I $N^2 = N_0 (1 - N)$

Where v_n, w_n n are periodic roots with period n; v_n, w_n are mutual orthogonal that fulfill the requirement for orthogonality: $v_n w_n$ = $V_0.W_0$, $v_n \omega_n = V_0. \omega_0$; n = 0 ÷ ∞; the roots v_n, w_n, ω_n and n_n are expressed as: $v_n = (\psi^n).V_0$ $w_n = (1/\psi^n). W_0$ $\omega_n = (1/ \psi^n). \omega_0$ $n_n = (1/\psi^n). N_0$; linear velocity V_0 is the starting value of V_n, amplitude of cross vortex W_0 is the starting value of ω_n, angular velocity ω_0 is starting value of ω_n, number N_0 is starting value of n_n; ψ is a proportional that fulfills the requirement: $\psi - 1/ \psi = 1$ (Figure 1b) [6-9].

- **Result:** The first positive root of the first equation (2) is: $v_1 = \psi.V_0 = 1{,}62.V_0$ The periodic roots of the first equation (2) are obtained from the expression: $v^n = V_0 (v^{n-1} + v^{n-2})$.

- **Result:** The first positive root of the second equation (2) is: $w_1 = (1/\psi.)W_0 = 0{,}62.W_0$. The periodic roots of the second equation are obtained from the expression: $w^{n-2} = W_0. (w^n - w^{n-1})$.

- **Result:** The last wheel (accelerator disk) in space of accelerating vortex in 3D will has minimum number of sucking vortices n_{min} and minimum angular velocity ω_{min}. As a final the last wheel will has zero number vortices n_0 an zero angular velocity ω_0 or it will freeze.

- **Result:** An accelerating vortex with an increasing velocity (V+) sucks from the environment accelerating vortices with decreasing amplitude (W-) (because of sign - in second equation of system above) (Figure 1b).

- **Result:** The amplitude (W)decreases in perpendicular direction to the velocity vector (V) (Figure 1b).

- **Result:** The amplitude (W) decreases only if it is directed from the outside to the inside, i.e. if the accelerating vortex

sucks outward cross vortices with decreasing amplitude (W) (Figure 1b).
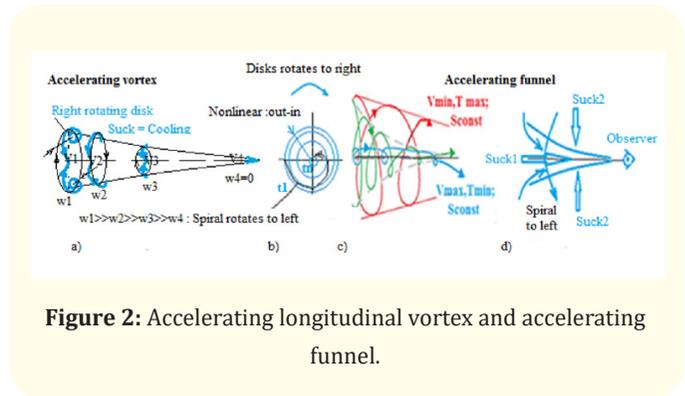

Figure 2: Accelerating longitudinal vortex and accelerating funnel.

- **Result:** According to the Rule of the Left Hand the sucked accelerating cross vortex (E) in 2D generates at the center from outside to inside in 3D a longitudinal vortex (H). So at every n_i point forms right rotating wheels (disks) in space perpendicular to the direction of velocity (V). The rotation is right (clockwise,+), when observer watches against the movement) (Figure 1b).

- **Result:** The accelerating longitudinal vortices has left rotating spiral in time (counterclockwise,-) (Figure 1b).

- **Result:** The first wheel has maximum number (n_{max}), maximum amplitude (A_{max}) of sucked vortices and maximum angular velocity (ω_{max}. The last wheel of accelerating vortex in 3D has minimum number (n_{min}), minimum amplitude (A_{min}) of sucked vortices and minimum angular velocity (ω_{max}) (it almost do not rotate).

- **Result:** Because of the amplitude (W), angular velocity (w) and the number of cross vortices (N) decreases it forms accelerating, stretching, narrowing, right rotating Funnel in which: W_{min}, w_{min}, N_{min}.

- **Result:** Two or several accelerating longitudinal vortices, due to the suction of cross vortices, are attracted each other. They form attractive accelerating tube as an one - focusing funnel.

- **Result:** Two or several accelerating longitudinal vortices form a tube like: the fastest vortex is inserted at the center with the maximum lineal speed, the minimum number of coils and the minimum radius of cross section, maximum high of spiral, but constant spiral path; the slower vortex has

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more coils, less linear speed, less high of spiral, but constant spiral path and the vortex at the periphery is winding with a minimum lineal speed, maximum number of coils, minimum high of spiral, but a constant spiral path. Because of acceleration this tube turns to so called Gravity Funnel (Figure 2, Figure 3) [3,4].

Property of repulsing of decelerating funnel and property of sucking of accelerating funnel in the new time-space with S = const

Looking at systems (1) and (2) we will notice that they are mutually orthogonal.

Decelerating vortex and decelerating funnel (1):

- **Result:** When the decelerating vortex emits decelerating free transverse vortices to the environment (according to the sign " + "of second equation of system1), its velocity decelerates more and more at each step (according to the first equation of system1).
- **Result:** The kinetic energy decreases at the expense of increasing of potential energy of environment.
- Therefore it is emitted the potential energy to environment (Figure 1a).
- **Result:** The ambient temperature increases or the environment is warming.
- We saw above that the decelerating longitudinal vortices emit to outside decelerating transverse vortices (system1). We saw also that in the decelerating longitudinal funnel the decelerating longitudinal vortices are repelled from the center outwards and scattered outwards (Figure 1c).
- **Result**: In the decelerating longitudinal funnel the decelerating longitudinal vortices are repelled from the center outwards and scattered outwards,
- **Result:** At the same time the decelerating funnel performs a rotating motion which is immersed perpendicular in a medium, consisting of free elementary transverse vortices and in this way it acts as a mixer (Figure 3c).
- **Result**: In the center of funnel the kinetic energy of decelerating vortex decreases, and in the peripheral the potential energy of decelerating vortex increases [3].
- **Conclusion:** The mixer of decelerating funnel rotates and inflates inside to out the space filled with free transverse vortices (Figure 3d).

- **Conclusion:** The decelerating funnel consumes kinetic and generates potential rotational energy to environment.
- **Conclusion:** The decelerating funnel generates the transverse vortex space.

Accelerating vortex and accelerating funnel (2):

- **Result:** When the accelerating vortex sucks free vortices from the environment (according to the second equation of system2), its velocity accelerates more and more at each step (according to the first equation of system2).
- **Result:** The accelerating vortex increases its kinetic energy at the expense of the potential energy of the environment in which it moves (Figure 2a).
- **Result:** As a result, the ambient temperature decreases, therefore the environment is cooling.

In the accelerating funnel, the accelerating longitudinal vortices suck potential energy in form of free transverse vortices from outwards to center and they are concentrating to the center.

- **Conclusion:** An kinetic energy generation is obtained because of an additional energy is added to the main base of initial energy,
- **Conclusion:** In the accelerating funnel there is a rotating motion and it acts as a mixer.

In the center of funnel the kinetic energy of accelerating vortex increases, and in the peripheral the potential energy of accelerating vortex decreases [3,4]. Therefore, this mixer rotates, suck and concentrates from out to inside just the same space filled with free longitudinal vortices (Figure 2 c, d).

- **Conclusion**: The accelerating funnel generates kinetic and consumes potential energy from environment.
- **Conclusion:** The accelerating funnel generates the time and consumes the space.

Property of invisibility of the so called "black matter" in the new time-space with S = const.

It is well known that light waves are transverse vortices. When they met matter in form of a barrier of a transversely wound vortex (for example an elementary particle) they are reflected by its surface. T hat is way any outside observer will perceive these material objects.

Unlike transverse vortices, longitudinal vortices do not reflect transverse vortices of light waves. The reason is that the transverse

waves of light diffract around the thread of the longitudinal vortices In that way he transverse vortex of light surrounds the thread of the longitudinal vortex and continues to propagate in the same direction and at the same speed. The reason for this phenomenon is that the diameter of the longitudinal vortex filament is commensurate with the lenght wave of the light [3,4].

Result: The longitudinal vortex is invisible to an outside observer.

For example, an accelerating funnel of longitudinal vortices consists of several accelerating longitudinal vortices. From the above it became clear that the diameter of each of filaments of the longitudinal vortex is commensurate with the wavelength of light. In addition, the longitudinal vortices are packaged so that in the center of the funnel is concentrated the fastest vortex whose longitudinal speed becomes commensurate with the speed of light.

Or, despite the high concentration of threads from longitudinal vortices, the center of the funnel becomes more and more invisible.

In addition to the commensurate diameter of the threads of the longitudinal vortices and the longitudinal speed of the thread becomes grows more and more. Therefore the longitudinal velocity becomes more and more commensurate with the speed of light.

In the case of the decelerating funnel, the central longitudinal vortices accelerate tothe speed of light as well while the peripheral vortices decelerate and dissolve sideways in a plane perpendicular to the direction of movement of the delayed longitudinal vortices. As a result, the funnel of longitudinal vortices is also invisible to any outside observer [4].

Result: The longitudinal funnels are invisible to an outside observer.

Therefore the longitudinal accelerating and decelerating funnel consists of several accelerating longitudinal vortices. The diameter of each of them is commensurate with the wavelength of light. The longitudinal vortices are packaged so that in the center of the funnel is concentrated the fastest vortex whose speed becomes commensurate with the speed of light and that is way the diameter of the thread becomes ever smaller and smaller. The speed of the thread in center of funnel becomes commensurate with the speed of light and the direction of speed is mutual perpendicular to the direction of light waves. Apart from the periphery, the center of the funnel becomes even more invisible and more invisible. That is

way the center of the funnel becomes increasingly invisible. So the whole funnel remains invisible all the way.

Conclusion: The space-time with a constant path (Sconst.) is invisible.

The longitudinal vortices, as well as the longitudinal accelerating and decelerating funnels represents 95% from space. As we saw above the longitudinal vortices, as well as the longitudinal funnels form very specific matter that is invisible. This matter is called by astrophysicists "Dark matter". It is an imaginary matter that consists of longitudinal vortices and funnels, with dimensions commensurate with the length of the wave of the light. Therefore this longitudinal structures in time-space with Sconst. do not reflect the light and they are invisible.

Conclusion: The matter called Dark matter, that exists in form of very specific imaginary matter in time-space with a constant path (Sconst.) is invisible as well.

Property of nonlinearity in time-space Sconst

From the first system (1) it can be seen that in the decelerating longitudinal vortex the initial linear velocity as well as the initial linear distance decrease in a geometric progression by a factor ψ. Also we can see in Figure 1a that the mesure of velocity decreases istrongly nonlinear.

Result: The velocity amplitude decreasee nonlinear by a factor ψ.

Because of a positive sign (+) in second equation of the first system (1) the amplitude of transverse vortices increase in a geometric progression by a factor ψ (Figure 1b).

Result: The diameter of the decelerating longitudinal vortex in direction of perpendicular to the velocity is also decreases nonlinear

From second system (2) it can be seen that in the accelerating longitudinal vortex the initial linear velocity as well as the initial linear distance increase in a geometric progression by a factor ψ. Also we can see in Figure 2a that the size of velocity is strongly increasing.

Result: The velocity amplitude increases nonlinear.

Because of a negative sign (-) in second equation of system (2) the amplitude of transverse vortices decreases in a geometric progression by a factor ψ (Figure 2b).

Result: The diameter of accelerating longitudinal vortex in perpendicular direction decreases nonlinear.

As it was described before nonlinearity is the result of acceleration. Acceleration is a reason and nonlinearity and distortion of space is only one result [12].

The nonlinearity of space is called by astrophysicists "Space distortion".

Conclusion: The acceleration of velocity is an only reason, but the Space distortion in 2D (in the plane perpendicular to the velocity) is only one of result.

Until now, gravity was thought to be due to the distortion of lines of force in space (Space distortion).

According to the new axioms and laws, gravity is due to the acceleration in 3D (along the velocity plus in the plane perpendicular to the velocity). Therefore the gravity is due to the acceleration in the new time-space Sconst.that is constucts from longitudinal vortices.But the gravity is not due to the nonlinearity in 2D (only in plane perpendicular to the velocity). Therefore the gravity is not due to the Space distortion in previous time-space Tconst. that is constucts from transverse vortices.

Conclusion: The acceleration of longitudinal vortices in 3D (in new time-space Sconst) is a reason of Gravity attraction but the Space distortion in 2D (in previous time-space Tconst.) is only one of its results.

The property of connection of the longitudinal funnels in time-space Sconst. To the transverse vortices in time-space Tconst.

The accelerating (Figure 3a) and decelerating (Figure 3c) longitudinal funnels which form Imaginary space (Sconst.) is connected to the accelerating (Figure 3d) and decelerating (Figure 3b) transverse vortices which form the Real (Tconst.) space through the laws for connections Law7 and Law8.

On one hand accelerating funnel which is an attracting funnel acts as a Generator of time and consumer of space. On the other hand the decelerating funnel which is a repulsive funnel acts as a consumer of time and generator of space. But the important thing is that both funnels are active [12,13].

Result: The accelerating and decelerating funnels in imaginary time-space Sconst. work in active mode.

It can be seen that the decelerating funnel (Figure 3c) connects and generates the accelerating transverse vortex (Figure 3d), accelerating transverse vortex connects and generates the decelerating transverse vortex (Figure 3b) and decelerating transverse vortex (Figure 3a) connects and generates the accelerating longitudinal funnel. Two of the three times-spaces are described and are connected (according Law7, Law8) namely time-space of transverse vortices (Tconst.) and time-space of longitudinal vortices and funnels (Sconst.). Only the third time-space is missing namely time-space with constant velocity (Vconst.). It will be described in future developments. The three time-spaces form a full circle (Figure 3 a, b, c, d) [10,12].

Result: Two of the three times-spaces are described and are connected namely time-space of transverse vortices (Tconst.) is connected to the time-space of longitudinal vortices and funnels (Sconst.).

Result: Real and imaginary space-time participate as one thirds (1/3) of the full circle.

Since the longitudinal decelerating funnel acts as a matter generator (Figure 3c), the longitudinal accelerating funnel must act as a time generator (Figure 3a).
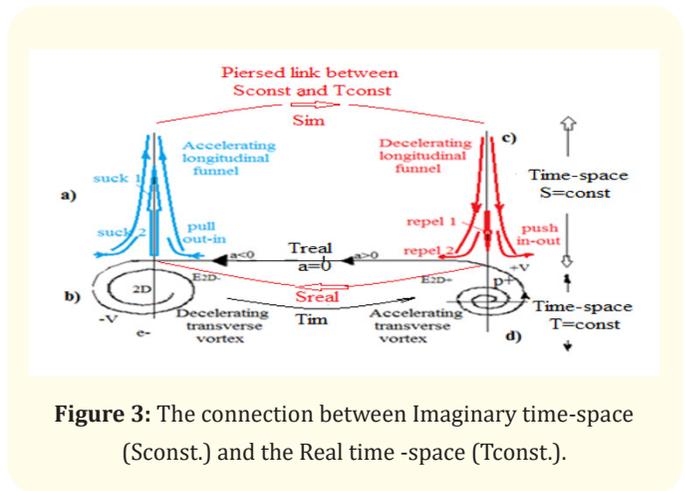

Figure 3: The connection between Imaginary time-space (Sconst.) and the Real time -space (Tconst.).

The accelerating longitudinal funnel works as a time generator or it play role of a generator of kinetic energy and it consumes of potential energy (System 2, Figure 3a).

Result: The accelerating longitudinal funnel play role of a generator of kinetic energy (in the central longitudinal vortices) and it is a consumer of potential energy (in the peripheral longitudinal vortices).

Therefore in accelerating longitudinal funnel the time (T) is generated in the center and space (S) is consumed in the periphery.

Conclusion: The accelerating longitudinal funnel play role of is generator of time (T) in the center but the space (S) is consumed in the periphery.

We saw above that the one third of the full circle is time-space of transverse vortices with constant time (Tconst). But this time-space (Tconst) (as the others) is a complex time-space namely it consists by real part (Treal) and imaginary part (Tim) (Figure 3 b, d). Therefore Tconst = Treal +iTim.

Conclusion: The time-space (Tconst) is a complex time-space and it contains the real part (Treal) and an imaginary part (Tim): Tconst = Treal +i Tim.

The decelerating transverse vortex (Figure 3b) generates the accelerating longitudinal funnel (Figure 3a) according Law1 of New axiom and laws. The reason is that the decelerating transverse vortex is orthogonal to the accelerating longitudinal funnel or it is orthogonal in space and in time. The circuit of the decelerating transverse vortex which generates the accelerating longitudinal vortex form a first local resonance (Res1). Therefore they form the first local resonance (Res1).

Result: The decelerating transverse vortex is orthogonal (in space and in time) to the accelerating longitudinal funnel and they form the first local resonance (Res1).

Conclusion: The decelerating transverse vortex generates accelerating longitudinal funnel in chain of first local resonance (Res1).

The decelerating longitudinal funnel (Figure 1c, Figure 3c) generates the accelerating transverse vortex (Figure 3d) (System 1) [12,13].

The decelerating longitudinal funnel is a consumer of kinetic energy (in the central longitudinal vortices) and it is a generator of potential energy (in the peripheral longitudinal vortices). This means that time is consumed in the center and space is generated in the periphery. The decelerating longitudinal funnel in time-space with Sconst. form the matter in time-space with Tconst. by means of generating of potential energy and consuming of kinetic energy. This happens from the time- space of longitudinal vortices and funnels with Sconst. to time –space of transverse vortices with Tconst. which form the matter.

Conclusion: The decelerating longitudinal funnel in time-space with Sconst. play role of generator of the potential energy.

This means that when generates the matter in the contact between space-time with Tconst and Sconst, the potential energy is used at the expense of the kinetic energy of the decelerating funnel.

Result: In the decelerating longitudinal funnel time is consumed in the center and space is generated in the periphery**.**

Beside this the decelerating longitudinal funnel is orthogonal to the accelerating transverse vortex.

Therefore they form the new local resonance (Res2).

Result: The decelerating longitudinal funnel is orthogonal to the accelerating transverse vortex.

Therefore they form the second local resonance (Res2).

Conclusion: The decelerating longitudinal funnel generates accelerating transverse vortex in chain of second local resonance (Res2).

The circuit of the decelerating longitudinal funnel which generates the accelerating transverse vortex (Res.2) is orthogonal to the circuit of the decelerating transverse vortex which generates the accelerating longitudinal funnel (Res1) [11-13].

Result: Both of circuits are mutual orthogonal according Law7 and Law8. Namely the circuit of the decelerating funnel of longitudinal vortices which generates the accelerating transverse vortex (Res2) is orthogonal to the circuit of the decelerating transverse vortex which generates the accelerating longitudinal funnel (Res1).

Because of the circuit who build first resonator (Res1) and the circuit who build second resonator (Res2) take part (as 2/3 part) in total circuit (Figure 3 a, b, c, d) we can observe that the both circuits which are mutual orthogonal form a total resonance (Tot Res.) [13].

Conclusion: The resonator of decelerating longitudinal funnel which generates the accelerating transverse vortex (Res.2) and the resonator of decelerating transverse vortex which generates the accelerating longitudinal funnel (Res1) form a circuit of total resonance (Tot Res.).

Therefore, due to the existence of this system with total resonance (Tot Res.), if a space is generated somewhere in the universe, elsewhere in the universe, the other space should shrink

Conclusion: If somewhere there is a generation, explosion and expansion of space, then elsewhere there will be consumption, suction and contraction of the other space.

This is due to the unity of the world and proves the law of conservation of energy and matter. This proves that the existing of the unity world is due to the transformation of matter (Tconst) to energy (Sconst) and inverse (through a strange and unique contacting time-space with Vconst which is not explain in this report).

Conclusion: There are no single objects or single chains in the universe. There are systems of single objects and system of single chains in the universe, so that each of these systems exist in total resonance (Tot. Res.).

According the description of circuit of Total Resonance, we can make sure in the following:

- **Result:** The real time (Treal) between accelerating and decelerating transverse vortex (Figure 3d - Figure 3b) has opposite direction compared to the imaginary time (Tim) between decelerating and accelerating transverse vortex (Figure 3b - Figure 3d).

This is described by the Law 7 of New axiom and laws. This space along opposite direction is full by free transverse elementary vortices [5,6]. We saw above that in real time-space with T = const it exists a Total Resonance $(Ttot)_{Tconst}$ which is complex magnitude has real $(Treal)_{Tconst}$ and imaginary time $(Tim)_{Tconst}$ (Figure 3 b, d).

Conclusion: In time-space with T = const the time (Ttotal) of circuit of Total Resonance is a complex magnitude: $(Ttot)_{Tconst} = (Treal)_{Tconst} + i (Tim)_{Tconst.}$

According the direction of times we can specify the following: As is well known, time is defined as a sequence of actions. This means that the cause precedes the result in time and this is taken as the real direction of time. But in Figure 3 we can see that between accelerating transverse vortex (Figure 3d) and decelerating transverse vortex (Figure 3b) for space-time with T = const, the real time $(Treal)_{Tcons}$ and imaginary time $(Tim)_{Tconst}$ have an opposite direction.

Conclusion: For space-time with Tconst, the real time $(Treal)_{Tcons}$ and imaginary time $(Tim)_{Tconst}$ have an opposite direction.

In space-time with Sconst it exists the real time (Treal) $_{Sconst}$ along the link between decelerating and accelerating longitudinal funnels (Figure 3d-Figure 3b) and it exists imaginary time (Tim) $_{Sconst}$ between accelerating and decelerating longitudinal funnels (Figure 3a-Figure 3c).

Conclusion: For space-time with Sconst the total time $(Ttot)_{Sconst}$ of circuit of Total Resonance is a complex magnitude: $(Ttot)_{Sconst} = (Treal)_{Sconst} + i (Tim)_{Sconst.}$

We need to clarify that the chain orthogonal to Tconst. consists of a chain with Sconst. plus a chain with Vconst (which is not described in this report).

Now let's the chain from the space-time of the transverse vortices with Tconst (Figure 3 d, b) to intersect the chain formed by the space-time of the longitudinal funnels with Sconst. (Figure 3 c, d, b, a) plus the chain with the space-time with Vconst (Figure 3 a, c).

We will observe that the real time in time-space Tconst, or $(Treal)_{Tconst}$ (Figure 3d-Figure 3b) and real time in Sconst or $(Treal)_{Sconst}$ (Figure 3a-Figure 3c) have an opposite direction. Therefore the real vectors $(Treal)_{Tconst}$ and $(Treal)_{Sconst}$ have the property collinearity. The collinearity property of the real-time vectors ($(Treal)_{Tconst}$ and $(Treal)_{Sconst}$) of the two mutually orthogonal spaces (Tconst and Sconst plus Vconst) shows the unity of the system of these mutually orthogonal spaces (according Law7 and Law8 of New axiom and laws).

Result: The mutually orthogonal spaces (Tconst, Sconst and Vconst) form an unity system.

Conclusion: The real time (Treal) for time-space with Tconst, or $(Treal)_{Tcons}$ has an opposite direction to the real time (Treal) for the time-space with Sconst or for $(Treal)_{Sconst}$.

This means that if real time (Treal) in real time–space with Tconst or $(Treal)_{Tcons}$ (in which we live now) points from the present to the future, then real time (Treal) in imaginary time- space with Sconst or $(Treal)_{Sconst}$ it seems like to point from the future to the present.

In the microcosm, the direction of time is determined the sequence of particle generating by transverse vortices in time-space Tconst. This direction is from proton to electron. In the macrocosm, the direction of time is determined by the sequence of generating objects from transverse waves in time-space with Tconst, This direction is from the star Sun to the planet Earth, in particular for example.

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Conclusion: The real time (Treal) in real time–space with Tconst or $(Treal)_{Tcons}$ (in which we live now) points from the present to the future but the real time (Treal) in imaginary time- space with Sconst or $(Treal)_{Sconst}$ as if it points from the future to the present.

The direction from the future to the present can be established only in the space-time of the longitudinal vortices characteristic of Sconst. But we are living in the other time-space, in other world.

We are material beings made up of structures of transverse vortices with Tconst. Therefore man and other beings with consciousness can perceive neither the space-time of the longitudinal vortices with Sconst. nor its time expressed in a sequence of actions and generating.

Conclusion: The man that live in time-space with Tconst. with real time (Treal) in straight direction (real direction) can perceive neither the time-space of the longitudinal vortices with Sconst. nor his real time (Treal) (in opposite direction).

Property of the central vortex from the accelerating longitudinal funnel to accelerate to superlight speed

If we have a funnel with n number of longitudinal vortices inserted into each other, according to Law 2 and system (2), the following speed distribution is obtained: If the number of longitudinal vortices in one longitudinal funnel is n (n = 1,2,3..) and the velocity at the periphery of funnel increases in factor φ^1 times, then the central vortex increases in factor φ^n times more.

Result: Each internal longitudinal vortex with a sequence number (n = 1,2,…) is accelerated relative to the most peripheral vortex by a factor φ^n.

For example if we have a funnel with n = 3 longitudinal vortices inserted into each other in funnel, according to Law 2 and system (2), the following speed distribution is obtained, (Figure 4): If the initial speed is Vo then the velocity at the most periphery of the funnel (the first vortex) is equal to Vo.φ^1 (n = 1), the inner vortex (the second vortex) has velocity Vo. φ^2 = Vo (n = 2), and the central vortex (the third vortex) has maximum velocity Vo. $\varphi^{3,}$ (n = 3). Therefore each internal longitudinal vortex with a sequence number (n) is accelerated by a factor φ^n.

For example: if we have an accelerating funnel with n = 5 longitudinal vortices inserted into each other.
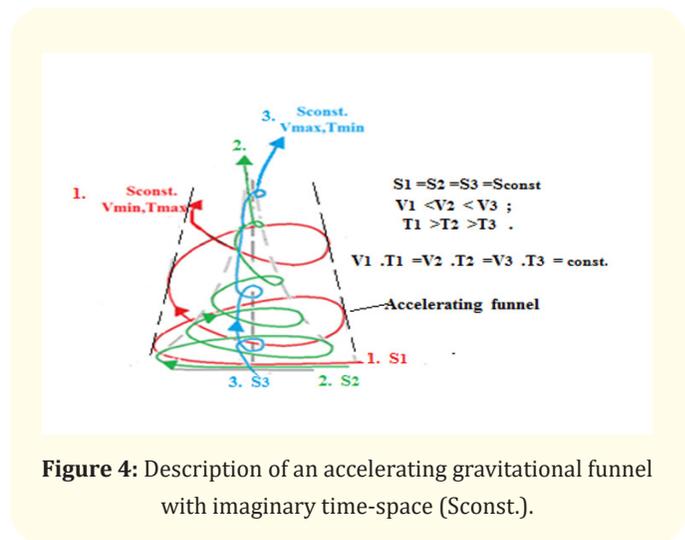

Figure 4: Description of an accelerating gravitational funnel with imaginary time-space (Sconst.).

If the peripheral vortex has an initial speed V_0 = 30000 m/ sec. (30 km/sec, 108000 km/h) or the speed of most periphery vortex is $V_1 = V_0.\varphi^1$ = 30000. 1,62. Then the central vortex will has velocity of $V_5 = V_0.\varphi^5$.

As $\varphi^5 = (1.625)^5 \sim 11,145$ then the central vortex has velocity of: V_5 = 30000.11,145 ~ 334350 m/sec which is more than light velocity (~ 300000 m/sec).

Result: If we have an accelerating funnel with 5 longitudinal vortices inserted into each other and if peripheral speed is 30000 m/sec then the speed of central vortex is approximately 334350 m/sec or more than light speed.

For example: if we have an accelerating funnel with n = 10 longitudinal vortices inserted into each other.

If the peripheral vortex has an initial speed equal to hypersonic speed (9Max): V_0 = 3000 m/ sec. (3 km/ sec, 10800 km/h) then the final speed of most periphery vortex is $V_1 = V_0.\varphi^1$ = 3000. 1,62 and the central vortex will has velocity of $V_5 = V_0.\varphi^{10}$. As $\varphi^{10} = (1.625)^{10} \sim 122,62$ then the central vortex has a final velocity of: V_5 = 3000 m/sec. 122,62~367860 m/sec, which is more than light velocity (~ 300000 m/sec).

Result: If we have an accelerating funnel with 10 longitudinal vortices inserted into each other and if peripheral speed is 3000 m/ sec (hypersonic speed = 9 Max) then the speed of central vortex is approximately 367860 m/sec or more than light speed.

The additional extra acceleration is as a magic of accelerating longitudinal funnel that is added to the initial acceleration. This additional extra acceleration is a reason the accelerating funnel to contract more and more in diameter and the suction force in the cross section perpendicular to the acceleration (Gravity attraction) to increase more and more.

Result: The existing of an additional extra acceleration inside of accelerating longitudinal funnel is a reason this type of funnel to become a generator of acceleration, speed and Gravity attraction.

In previous reports have described in detail how is accepted the additional extra acceleration of longitudinal accelerating vortices inserted into each other in form of a funnel [3,12].

This happens as the outermost accelerating longitudinal vortex sucks free vortices from the environment and accelerates with a coefficient of φ^1. The inner vortex cannot suck vortices from outside, but sucks vortices from the neighboring outer vortex and accelerates with a coefficient of φ^2 and so on.

Thus, each inner accelerating longitudinal vortex sucks transverse vortices about its neighboring outermost longitudinal vortex. Therefore, the central longitudinal vortex with sequence number n will suck transverse vortices from the outermost neighboring vortex with sequence number n-1 and will accelerates by a factor φ^n.

Conclusion: Due to the unique phenomenon of additional extra acceleration inside an accelerating longitudinal funnels in the mode of existence with Sconst., the central longitudinal vortex can reach a final speed comparable to the speed of light.

Therefore the unique phenomenon of additional acceleration inside of the accelerating longitudinal funnel existing in the mode of Sconst., is a reason**.** The result is the accelerating longitudinal funnel existing in mode of the time-space with Sconst. Even something more – due to the unique phenomenon of additional extra acceleration inside an accelerating longitudinal funnels this kind of accelerating funnel play role of generator of kinetic energy and consumer of potential energy. This happens from the time- space of transverse vortices with Tconst. to time –space of longitudinal vortices with Sconst.

Conclusion

The accelerating longitudinal funnel in time-space with Sconst. play role of generator the kinetic energy.

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