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# *Super Conductor by Internal Vortex Tunnel*

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## *Abstract*

*It is known that the motion of an Ideal fluid is described by Bernoulli's Law. Unlike an Ideal fluid, the motion of an Electric field along a Classical Conductor is described as the motion of a Real fluid with friction, cohesion and adhesion. Moving the Electric field along Classical Conductor it is stratified in lamellas with different speeds. The speed of lamellas decreases from the center to the periphery. In first moment of time appears lamella in center of Conductor with maximal speed, after time appears lamellas in both side with less speed and so on and in last moment of time appears lamellas with minimal speed in both peripheries. Thus, a Reverse wave is formed from the center to the periphery of the Classical Conductor.*

*The author applies her the Open Vortex Theory. It contains 2 new Axioms and 8 Laws. This report uses 1 Axiom and 3 Laws only. According Axiom1, Open vortex is obtained whenever there is uneven motion (decelerating or accelerating) along a curve. According Law5, because the Reverse wave performs a decelerating motion it emits decelerating open vortices outward from the Classical Conductor. This is a reason the described external Electric Current emits decelerating open vortices outwards and to lose Energy warming environment. The structure of Classical Conductor contains an internal Electric field that is in opposite direction an external Electric current accompanied by the external Magnetic field.*

*The author proposes a Super Conductor that has an exactly orthogonal structure to the Classical Conductor. In the periphery, the material there muster minimal Resistance and, in the center, the material must have a maximal Resistance. So, in the periphery, the Electric field will have a maximum speed and in central Tunnel it has minimal speed. Therefore, the Electric current will be interna land moves together with its internal Magnetic fielding direction from periphery to central Tunnel. Thus, the losses tend to zero.*

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## Introduction

### Bernoulli's Law for an Ideal fluid

It is well known the Bernoulli's Law which is formulated as follows: The sum of the specific Energy of position and pressure, plus the kinetic specific Energy is constant at any given cross-section of the flow. In the

pipeline, the flow Energy is equal to the sum of the dynamic, gravitational and static Pressures. Total Energyis: V + Z + P = constant, where Vis the dynamic Pressure, Zis gravitational Pressure, P is Pressure in all directions of the volume.

Bernoulli's principle reflects the Law of conservation of mechanical Energy with respect to an ideal and incompressible fluid, without losing Energy due to friction [1].

## Real Fluid

### Stratification of real fluid as Electric field

Bernoulli's Law ignores the friction of the fluid along the pipe. If friction is taken into account, then the picture of fluid stratification should be considered.

Let's consider the Electric field as a type of real fluid and the Classical Conductor as a type of pipe. Due to friction and viscosity, the Electric field stratifies into different lamellas with the corresponding velocities. The stratification mechanism is the following: in the center of the Classical Conductor a field with a maximum velocity vector moves, on both sides of it a field with a smaller velocity vector moves symmetrically, etc. and at the very peripheries the both field lamellas have a minimum velocity vector (Figure 1a) [1].

### The Electric Fieldis Describes as the Decelerating Longitudinal Vortex

The real fluid as the Electric field involves friction and viscosity. Due to friction and viscosity, each lamella of the Electric field is described as a decelerating motion. The central lamella is slightly retarded, the outer lamellas become more significantly retarded, and at the peripheries the lamellas are the most retarded. This means that the Velocity gradient decreases in the direction from the center to the periphery: grad Vi<0 (Figure 1a).

## Description of Open Vortex Theory

### Axiom1 describes Open vortex

The classical Electromagnetic Theory is based in a single Classical Axiom for Closed vortex (Maxwell1864). Therefore, all Laws of Maxwell are trueonly for Closed vortices that move with constant velocity [2].

In Open Vortex Theory an new phenomen is a deceleratingmotion of the real fluid as an Electric field. According this new Theory the decelerating Electric field emits Open vortices outwards to the environment or to the neighboring lamellae. Exactly this Open vortex that is emitted to the environment is described by a new Axiom1 [3].

### Axiom1 claims that for every Open vortex with tangent vector Velocity (E) is true: div (rot E) is not (0).

Therefore, every Open vortex is described by a divergence (increase or decrease) of the rotor overtreatment vector velocity (E), that is always different from zero. Or velocity is variable (increasing or decreasing) and is not constant [3].

**Result:** An Open vortex is always uneven, or Velocity is not constant and acceleration of Velocity is not zero.

### Law1 for volume 3D describes how decelerating vortex generates accelerating vortex

The open **decelerating** transverse vortex (E2D -) generates an open accelerating longitudinal vortex (H 3D +) from inward to upward This action takes place from the Gravity center (G) of decelerating cross vortex (E2D -) through a particular transverse-longitudinaloperator for transformation (Δ1-):**Δ1- Vor (E2D -) => Vor (H3D** + )

**Result:** The Law1 describes phenomena of Full Resonance or resonance in Space (by amplitudes) and Time (by frequencies and phases) [3].

## Law5for volume 3D describes decelerating vortex

The 3D longitudinal **decelerating** vortex is described by a multitude of 4 nonparametric equationsin which:longitudinal velocity (V) decreases in (n) portions($1/f^n$) times; theamplitude (W) theangular velocity (ω) and thenumber (N) of transverse vorticesin every wheel increasesin (n) portions ($f^n$) times:

**V- VO/ V = -1, W-Wo /W= 1ω - ω0/ω=1N - No /N=1,**

where 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 $\omega_0$ is starting value of $\omega_n$**,** number $N_0$is starting value of transverse vortices in current wheel $n_n$, [ $n_n$ ] is the closest integer: $v_n w_n$ and $\omega_n$ are periodic roots with period n; $v_n w_n$are mutual orthogonal that fulfill the orthogonal requirement : $\mathbf{v_n.w_n = V_0.W_0}$ ; $v_n \omega_n$ are mutual orthogonal that fulfill the orthogonal requirement:$\mathbf{v_n.\omega_n = V_0.\omega_0}$ ;n = 0 ÷ ∞; the roots $v_n$ $w_n$ and $\omega_n$ and $n_n$ are expressed as: $v_n = (1/f^n).V_0$ $w_n = f^n.W_0$ $\omega_n = f^n.\omega_0$,[ $n_n$ ]=$f^n.N_0$, (f)is Golden proportion that fulfills requirement : **f-(1/f) =1** [3,4].

It is well known that an equation is nonparametric if it do not depend on external parameters

**Result: Decelerating vortex is described by 4 nonparametricequations that depend only** of Golden proportion (f) [5].

## Definition

**For decelerating vortex thesquare of Golden proportion is: $(f^2)^n = (w_n / v_n)$ It** equals the ratio between result and reason if$W_0=V_0=1$

**O**r (f )is equals the ratio between current amplitude of the transverse vortex ($W_i$) (as result) to the current longitudinal vector ($V_i$) (as reason) This means that after first point (n=1) amplitude of transverse vortex (Wi) increases from (1) to (f) (f=1,62),but velocity of longitudinal vortrx (Vi) decreases from (1) to (1/f )(1/f=1/1,62 =0,62) [5].

**Result: The decelerating vortex transformsmaximal Velocity ($V_1$)from starting ($n_1$)** pointto a transversewheel with maximal Radius($W_n$) in final ($n_{th}$) point, and anangular velocity($\omega_n$)and radius of rotating wheel ($W_n$)tomaximal in final ($n_{th}$)step (Figure1a)[2,4].

**Result: An decelerating vortex emits the Primary decelerating vortices (called** decelerating Quanta ) from itself tothe outside or they emit warm to environment.

## Law6 for volume 3D describes accelerating vortex

The longitudinal **accelerating** vortexin 3D is described by a multitude of 4 non parametric equations in which: longitudinal velocity (V) **increases** in (n) portions ($f^n$) times, the amplitude (W) the angular velocity (ω) and the number (N) of transverse vortices in current wheel **decreases**to zeroin (n) portions ($1/f^n$) times:

**V- $V_o$/ V = 1, W-$W_0$/W= -1 ω-$\omega_0$ / ω= -1N-$N_0$ /N= -1**

where the 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 w $\omega_0$ is starting value of $w_n$ number $N_0$ is starting value of$n_n$, the roots $v_n$ $w_n$ and $\omega_n$ $n_n$ are expressed as: $v_n = (f^n).V_0$ $w_n=(1/f^n).W_0$ $\omega_n = (1/f).\omega_0$,$n_n = (1/f^n).N_0$; (f) is aGolden proportion that fulfills the requirement:**f – (1/ f) =1** $v_n w_n$ are periodic roots with period (n)(Figure 2a) [2,3].

**Definition: For accelerating vortex the square of Golden proportion is: $(f^2)^n = v_n / w_n$) It is** the ratio between result to reason or between the current longitudinal vector ($V_i$) (as result) to current amplitude of the transverse vortex ($W_i$)(as reason) if $W_0=V_0=1$ [5].

**Result: Anaccelerating vortex sucks in the Primary accelerating vortices (called** accelerating Quanta) from the outside from environmenttowards itself.

## Description of Classical Conductor according Open Vortex Theory

### The missing in the description of Classical Conductor

The Classical Conductor is made of a metal which has a crystalline structure and contains free electrons. Until now it was considered that the movement of the Electric field is frictionless and without viscosity between the lamellae. Therefore, until now the presence of an Internal structure of the Electric field was neglected.

In reality the internal structure of the field is shaped by friction, viscosity adhesion and cohesion. This real structure is described by Open Vortex Theory.The Internal structure of the Electricfield is expressed by **Velocity gradients**between the adjacent lamellae, from center to periphery. This velocity gradients is negative: grad Vi < 0 [3,4].

### What is unexplained

The fact that electronsand Electricity field move against the Electric current remained unexplained This is due to neglect ofof stratification in speeds (velocity gradients) of the Electric field It is not explanated of the fact that the deceleratingexternal **Electric current radiates heat** outside the Classical Conductor and how it happens. It misses explanation ofwhy are the losses in the Classical Conductor It is not clear also what isnecessity when we transport 50 hertz Electricity currentneed to increasethe Voltage in orderto reduce losses.

## Description of Inverse Wave as external Electricity Current

In the center of the Classical Conductor the speed of the central Electric vector $V_1$ is maximum. On both sides the speed $V_2$ is smaller and gradient is negative. By connectingvelocities $V_1$ with $V_2$ and $V_3$ etc. we will get adecelerating internal Electricity current. It continues in opposite directions decelerating external Electricity current alongsurface.

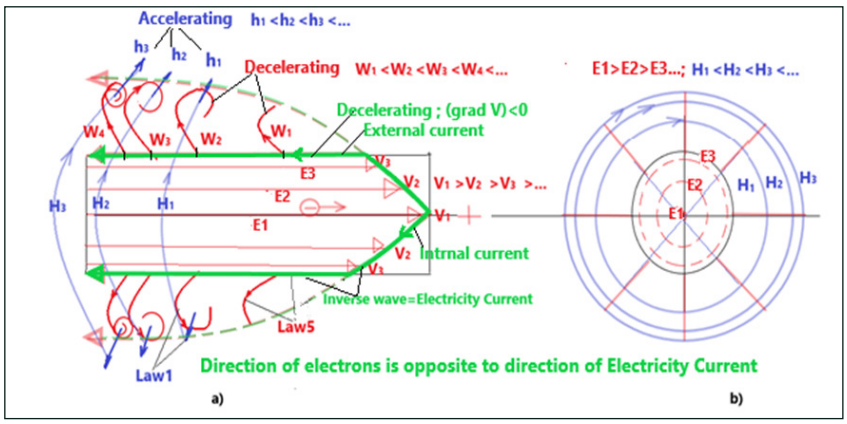
**Resul: If connect: $V_1$, $V_2$, $V_3$, we obtain internal decelerating Electricity Current**

According to Law5 of Open Vortex Theorythis decelerating vortexemits decelebrating transverse Primary vortices called Quanta with negative acceleration outward to the environment (Figure1a).

**Result :The decelerating external Electric Current emits decelebrating transverse** Primary vortices called Quanta with negative acceleration

**Result:The direction of the external Electric Current ($I_i$ ) isopposite to the direction**of internal Electric field ($E_i$ ) and electrons (e-).

**Figure 1:** Decelerating internal and external Electricity current ($I_i$)Longitudinal vortex($h_i$ ) (Law1)and Transverse vortex($W_i$)(Law5), b)Magnetic vortex($H_i$ )



### Description of Magnetic Field as external field for Classical Conductor

According to Law 1, the described decelerating Primary transverse vortex, or Quantum with negative acceleration, generates in its center longitudinal accelerating vortex (hi). It has a positive acceleration from the center of Primary transverse vortices (Wi) to upwards and it is perpendicular in volume 3D to the plane 2D of the Primary transverse vortex.

**Result: The accelerating vortex (hi) is perpendicular to decelerating Primary transverse** vortex (Wi) (Quantum with negative acceleration).

**Result: The direction of accelerating vortex(hi) can find by Right Hand Rule.**
When all elementary acceleration vectors (hi) pointing in the same direction are connected, then a **Closed vortex** is obtained describing the Magnetic force circles. It is they who are described by Maxwell in the single Axiom and Laws of Classical Electrodynamics [2].

**Result: All Magnetic field(Hi)rotate to direction which find by Right Hand Rule**.
In the case of Figure 1, all vectors of (hi)point to the right if the observer looks against the movement of electricity field. The (Hi) direction is found by the Right Hand Rule.

**Result: The Right Hand Rule claims that if thumb of righthand point direction of** Electric field, then the folded fingers point direction of Magnetic field.
Thus, accelerating longitudinal vortices (hi) outline the closed circle of Magnetic force lines(Hi) which are located outside the Classical Conductor.

**Result: The Magnetic field (Hi) makes Closed circles which are located outside the** Classical Conductor...

**Result: The external Magnetic field carry losses in conduction by Classical Conductor**.
Because Magnetic field is outside of Conductor itis emitted Energy losses to environment

### Description of Super Conductor according new Open Vortex Theory

### Construction of Super Conductor

### Super Conductor has orthogonal construction than Classical Conductor

We saw that in Classical Conductor, because of Resistance viscosity adhesion and cohesion between different layers their Velocities are different In central layer Velocity is maximal because Resistance is minimal In outer layers velocity are less, because Resistance are more and soon At peripheries Velocities are minimal because Resistance are minimal(Figure1a).

Next we will construct the orthogonal Super Conductor with orthogonal construction to Classical Conductor. In the Super Conductor center should has maximal Resistance (minimal Conductivity). But in periphery or at border to environment it should has minimal Resistance (maximal Conductivity) (Figure2a).

Maximal Resistance (minimal Conductivity) in center we can achieve by using **special alloy** (kanthal) or by special ceramic. Minimal Resistance (maximal Conductivity) in periphery we can achieve by using **conductive metals** (copper silver or gold).

### Inverse de-lamination:

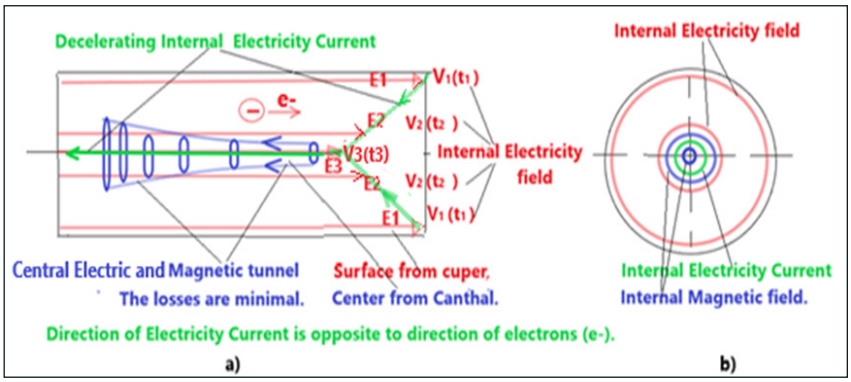
In Super Conductor the internal also Electricity field stratifies (delaminates or makes layer separation) investors with different speeds. Butit is orthogonal to Classical Conductor.

- In center velocity V 1 is minimal the reason is that in center (central Tunnel) is composed by the material of the **highest Resistance** alloy (kanthal)
- On both symmetrical sides have lamellas with sharp bigger velocities V 2. The reason is that both

symmetrical side sare composed the material of **less Resistance** and soon

- On both symmetrical periphery border shave lamellas with the biggest velocities V 3 The reason is that the periphery borders are composed the material of the **least Resistance** metal (copper silver gold) (Figure2a).

**Figure2:** Electricity field and Electricity Current are in opposite direction Magnetic field is in central tunnel; b) Electricity Current and Magnetic field are concentrated in center




## Advantages and disadvantages of Super Conductor

In Super Conductor the Electric field is also stratified but the speed is maximum at the periphery (V1) and the speed is minimum at the center (V3) (Figure2a). The reason is that at the periphery this Super Conductor is made of a metal with high Conductivity or **low Resistance** The center is made of an alloy with low Conductivity or **high Resistance.** Thus, the Electric field flows along the periphery with maximum speed (Vi) in the same direction as electrons (e-).

The Electric current is constructed by decelerating lamellas in direction from periphery to center (to central Tunnel) Thus Electricity current **becomes internal** in direction from periphery to center. The internal Electricity current continues moving through central Tunnel in direction opposite to electricity field and electrons (e-).

**Result: The Electric current becomes internal because it moves from periphery to** central Tunnel and it does not make losses outside to environment

The internal Electric current passes from a layer of low Resistance on the periphery, through layers of increasing Resistance, to the central layer of maximum Resistance

Due to increasing Resistance, the Electric current decreases (gradient less than zero: grad Vi<0) Or the internal Electric current becomes a decelerating internal Electric current.

**Result: The Electric current becomes decelerating due to increasing Resistance from** periphery to central Tunnel.

Because it decele rates it emits (according Law5) although small transverse vortices as decelerating thermal Quanta in the internal Tunnel.

**Result: The internal Electric current emits small decelerating Quanta and heats the** central Tunnel even if minimal.

It is extremely positive that the Magnetic field created by the internal Electric current is also internal and flows also through central Tunnel Therefore the Magnetic field also does not create energy losses.

**Result: The Magnetic field does not make losses outward because it is internal and** moves through central Tunnel.

## References

1. Halliday, Resnick, Walker, Fundamentals of Physics,8thEd, Publisher, Wiley India Pvt.2008.

2. Landau LD & EM Lifshitz (1975) The Classical Theory of Fields (Volume 2 of A Course of Theoretical Physics), 4th Edition, Butterworth-Heinemann.
3. Markova V (2018) About the new axioms and Laws, 5thInternational Conference on Theoretical and Applied Physics, Vienna, Austria July 02-03.
4. Markova V (2019) Extended Field Theory, New Axioms, Laws and Consequences, 2th Internat. Conference on Quantum Mechanics & Nuclear Engineering, Paris, France Sept. 23-24.
5. Markova V (2025) Causal Description of Natural System According Theory of New Axioms and Laws, Advances in Theoretical & Computational Physics (ATCP), ISSN: 2639-0108 Journal DOI: 10.33140/ATCP 8: 4.