



## The Model of Generator of Electricity Current, Based on New Axioms and Laws

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**Received:** May 02, 2024

**Published:** May 13, 2024

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### Abstract

The Classical Field Theory was created by Maxwell (1864). Its single Axiom says that the movement of a vector along closed circle, it becomes at a constant speed. Thus it make thruth for the subsequent Maxuell Laws, which perfectly describe the Electromagnetic Field. But further attempts to apply this Classical Field Theory to describe the more complex part of field microparticles create great problems and encounter insurmountable difficulties. Therefore, the author proposes a new Extended Field Theory for such more complex fields, which are characterized by a variable speed of movement in the form of vortices in 2D and 3D. The Theory of Extended Field contains 2 new Axioms and 8 new Laws and is described in previous articles by the same author. One of the many results of this new theory is a basis in the present paper. It describes a model of the electron both as an internal structure and as a system of working together with the other electrons.

On this basis, amazing structure are revealed for the electron. For example, it is revealed that the electron is a highly eccentric dipol and it looks like from outside as an empty eccentric toroid. The reason is that electron is created by opened decelerating transverse vortex from out to inward that generates in its new center accelerating longitudinal perpendicular vortex. Its new center, called the Gravitational center, is displaced from its Geometric center, and this is the reason for its wonderful properties. The property of the electron located in a Conductor is to phase itself when crossed by an external Magnetic Field. This is described as the phenomenon of Induction of Electric Current. Only by of specific structure of the electron described by the new Axioms and Laws can the phenomenon of Electric Current Induction be explained. Therefore the existing of phenomena of Induction is a direct proof of thruth of essence of Theory of new Axioms and Laws.

The novelty is a method of Induction (as phasing) without the need for movement and rotation. The only condition is to make a short phasing of the electrons in Conductor space by spetial Electric pulses in advance. After that, the power supply is turned off and is relied upon only to the internal natural pulsation of the electrons in the time. For this purpose, in this Device, called a Modified Conductor, a dense internal nano-network of Magnetic force lines with a strictly defined direction is made.

The purpose is that when pulsating, the electrons to hit the Magnetic force vectors (or to the vector in one side, or to vector in other opposite direction) and to self-phase. Thus by self-phasing to maintain the direction of the electronic dipoles and therefore to continue the flow of an Electric wave even in the absence of movement and rotation. Two models of so-called modified wire are shown in the article.

**Keywords:** Axioms; Electron; Electric Wave

## Introduction

The Classic Axiom states that movement of a vector with constant speed always form closed loop (Maxuell, 1864) [1]. The autor use in this particle 2 new Axioms and onky 2 Laws.

### New Axiom 1

It states that the movement of a vector with a variable speed (monotonically decelerating or monotonically accelerating) always forms an open vortex. The result in 2D is that we get a decelerating transverse or accelerating transverse vortex, and in 3D - we get a longitudinally decelerating or longitudinally accelerating vortex. Therefore instead of 1 movement (according Classical Axiom) we get 4 types of movements as vortices in 2D and 3D. The other result is that the open vortex is always eccentric. The center of eccentric is not in Geometric center, but it is replaced in so called Gravity center in second quadrant ( $E1 > E$ ,  $E3 > E4$ , Figure 1a). An example of an open decelerating transverse vortex in 2D is an electron (Figure 1b) [2,3].

### New Axiom 2

There exist in Space mutually orthogonal pairs of structures of open vortices that form resonant systems and exist simultaneously. An example of such systems in the micro world is the electron-proton and positron-antiproton systems (Figure 1c) [4,5].

### Law 1 for the electron

It states that a transverse decelerating vortex from the outside-in in plane 2D generates in its Gravity center a longitudinal acceleration vortex in volume 3D which is perpendicular to plane 2D (Figure 1b) [5].

### Law 5 for the electron

It states that a decelerating vortex radiates decelerating primary vortices from itself inward to the Gravity center of the toroid of electron (Figure 1b) [6].

## The behaviour of electron as a reasonable particle

### Review

It is well known from Mechanics of rotating bodies that if a rotating body is struck from outside (depending on the direction of rotation) then the body bounces on its axis (up or down) according to Right Hand Rule [5]. For example about the electron in Electric Conductor - the electron in the Conductor is hit from out-in by the force line of an outer permanent Magnetic field (Ho). The body of

electron also bounces along its axis (up or down) according Right Hand Rule. In this way electron phases its own axis (He) to external magnetic vector (Ho) [9].

### The participants in Induction

Ho (outer permanent Magnetic field) and its perpendicular plane (xo,yo);He (inner own longitudinal vortex of the electron, Law 1) and its perpendicular plane (xe, ye); and reaction of electron Hre (local longitudinal vortex, Law 1) and its perpendicular in plane of reaction (xre, yre) (Figure 1d) [9].

### The action in Induction as follows

The electron is situated in plane (xe, ye) with perpendicular vector (He) (Law 1). The Manetic force line (Ho) hit electron perpendicular and generates a decelerating transverse vortex of reaction (Law 5) from outside-in, which forms the plane of the electron reaction (xre, yre). This plane of reaction (xre, yre) generates own perpendicular vector of reaction (Hre) (Law 1) (Figure 2a).

The own perpendicular vector of electron (He) makes an angle in volume 3D (alfa1) to own vector of of electron (He). The vector of reaction (Hre) rotaites the electron plane (xe, ye) while it stand perpendicular to external hit (Ho).

This continue until the outer Magnetic line (Ho) becomes unidirectional and parallel to vector of reaction (Hre) and becomes unidirectional and parallel to own perpendicular vector (He) of electron:  $Hre \parallel He \parallel Ho$ . In this position vector of reaction (Hre) will aim to zero:  $Hre = 0$ , (Figure 2a).

At the same time the electron rotates and searches the this point of contact (P4) where the distance (D) between (Ho) and (He) is minimal:  $D(Ho-He) = \min$ , while Hre becomes zero (Figure 1d, P4). In this point the Potential energy is minimal. In this arrangement, the more convex parts of the electrons will be on the positive supply pole (+) and will emit a more powerful Electric wave towards the positive pole (+) of Conductor (to the right).

### Attention

When an electron is hit in stable point (P4) in this position the decelerating vortex is from right to left, the own perpendicular vector is to up (Law 1) and free end of vortex points to positive pole (+), (Figure 1d, P4). But there is a danger that some electrons will hit the adjacent Magnetic vector (Ho) with in a point opposite to

point P4, where the distance to the Gravity center is maximum and the electron becomes unstable. Because in this position electron is unstable and it start to spin its plane (xe, ye) and electron show the opposite side of its plane..At this opposite side the decelerating vortex of electron is appeared in opposite direction or from left to the right and it generates the perpendicular vortex (but attention) to down (Law 1). This is the new stable position of electron but

electron point its open end and convex part to negative pole (-). Thus the convex part of the electron turns out to inverse direction and when pulsating, it will emit a more powerful Electric wave towards the negative pole (-) (to the left), i.e. to the opposite direction of the main moving electrons. This means that the Electric wave of these electrons with opposite direction will be subtracted from the Electric wave of the main electrons, phasing and moving.

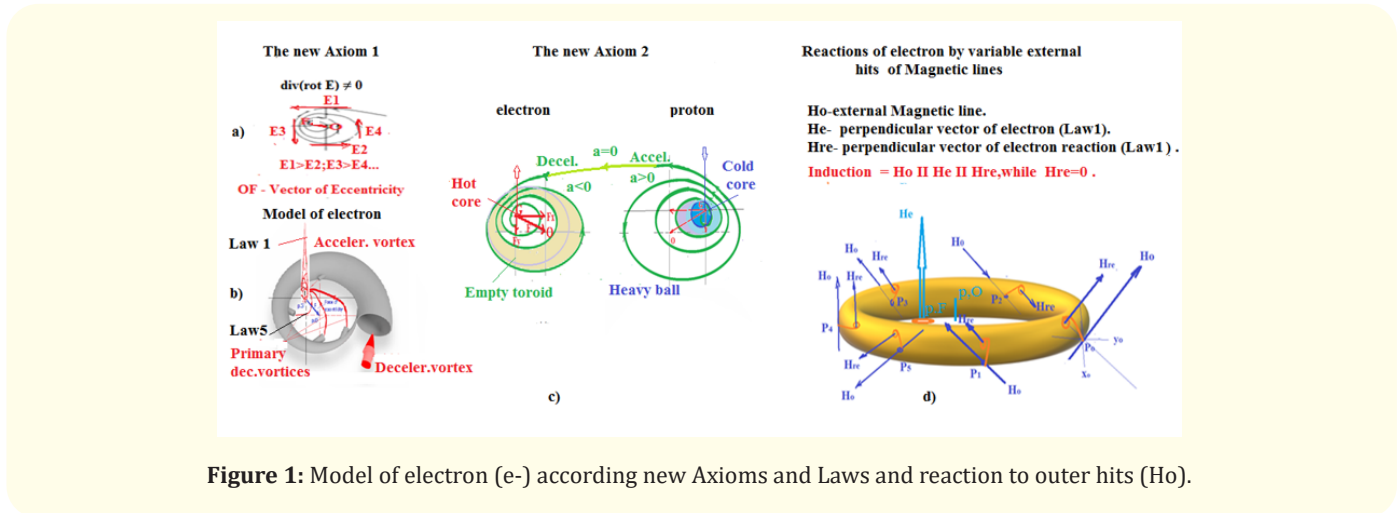


Figure 1: Model of electron (e-) according new Axioms and Laws and reaction to outer hits (Ho).

Figure 1a): Electron (e-) as eccentric toroid (Axiom1), The Gravity center (p.F) is in second quadrant (II) and is replaced to Geometric center (p.O).

Figure 1b) Model of electron (e-), Electron is created by decelerating transverse vortex and it generates a perpendicular vector (He) from its Gravity center (p.F) (Law 1).

Figure 1c) System of two mutual orthogonal vortices: electron-proton (Axiom 2).

Figure 1d) Electron is hit by external Magnetic Lines (Ho) in a large number variable points: Po, P1, P2, P3, P4,... The Ho tends to stay parallel and unidirectional to own electron vector (He) and own reaction vector (Hre), while Hre becomes zero (Hre = 0).

**Decision**

To avoid this situation of subtracting the Electric waves and reducing the effect of phasing in Induction, the constructor must reverse the direction of the every adjacent lines of Magnetic force

(Ho). Therefore, the directions of Magnetic lines must be arranged: up, down, up, etc. If the electron touches the adjacent vector (Ho) in opposite to stable point (P4), its own vector (He) is to down. Electron will rotate only along own vector (He) to search and find its stable point (P4). In this position its free end and convex part will point to positive pole (+) (Figure 2b).

**The necessary condition in Induction by moving and rotation**

The electrons need to phase 3 vectors (Hre II He II Ho) and to find the optimal point (P4) with minimal distance, and minimal potential energy (Figure 1d, P4). Therefore this necessary condition of Induction by moving and rotation of Conductor is very heavy and strict [9].

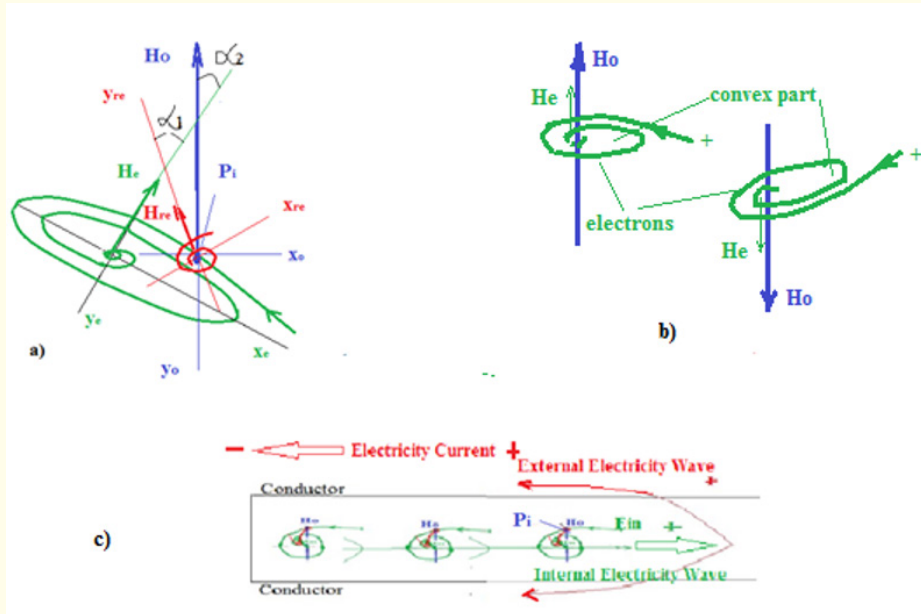
**The necessary condition in Induction by statically mode**

The electrons need to phase their free ends and the convex parts to one and the same end only along 1 coordinate (x-axis of Conductor) (Figure 2c). There is not a condition for unidirectionality and parallelity of 3 vectors (Ho, He, Hre), but condition to phase only along 1 vector.

**Result**

It is necessary electrons to phase only to 1 axis –along the length of Conductor.

Thus own perpendicular vector of electrons (He) can point to different directions while the electron planes (xe, ye) are always perpendicular to cross section of Conductor. It needs only their convex parts to point to positive (+) end of Conductor [9].



**Figure 2:** Electron Induction as separation and targeting.

**Result**

The own perpendicular vectors (He) and planes (xe, ye) of electrons point different directions.

Figure 2a) In 3D the angle between outer Magnetic line Ho and vector of reaction Hre is  $\alpha_1$ , the angle between magnetic line Ho and vector of electron is  $\alpha_2$ .

Figure 2b) Two inverse directional external Magnetic vectors (Ho) and corresponding two phased electrons are coiled in opposite directions but in one and the same plane, so that the opened ends and the convex part of electron bodies points to positive pole (+).

Figure 2c) Electrons are arranged with convex part to positive potential of electricity Conductor. Inside is moved internal Electricity Wave to positive Pole, outside is moved outer Electricity Wave in inverse direction to negative Pole called Electricity Current.

**The electron react like a reasonable subject**

An example how the electron searches and finds the stable point (P4): At point P0 the external shock is Ho and the reaction Hre not parallel to Ho and makes an angle to He. Therefore Hre will rotate the electron from down to up. At point P5 the external shock is Ho and the reaction Hre not parallel to Ho and makes an angle to He. Thus Hre will rotate the electron from up to down. At point P4, the magnetic line is Ho, reaction Hre and the axis of electron He are parallel each other and stand at minimal distance from each other. So electron is in stable point and it will not rotate to nowhere (Figure 1d) [9].

The reason the electron to react in this way is that it represents an open eccentric vortex by the decelerating transverse vortex moving from out to inside. (Figure 2c). Electron react to the external shocks of the external Magnetic field (Ho) by searching the most stable position in Space with lowest Potential Energy (Figure 1d).

It finds the stable position in 3D by rotating its body to this place where Point of hit (P4) is closest to Gravity center where the coils of spiral are closest to each other. Thus Point of hit (Pi) coincides with the point of minimum potential energy (P4) (Figure 1d,P4).

### Conclusion for the Reflex reaction

This reaction of electron get closer to response of the the living thing and any outside observer would think that this elementary particle has some kind of primary intelligence.

Finally, in order, but not in importance, the phenomenon of Induction would not be possible if the internal structure of electron were not exactly such as the open eccentric vortex, which is described by the new Axioms and Laws. Therefore, exactly the presence of the phenomenon of induction is evidence of precisely this internal structure of the electron.

### Conclusion for the Proof of the truth

The existence of the phenomenon of Induction is proof of the truth for internal structure of electron, explained by the new Axioms and Laws.

### Conclusions for induction

It is better the engineers to use the secret of Induction, according new Axioms and Laws. The reason is that the necenery conditions by New Axioms and Laws are much more weakly in comparison of the same by the Classic Field Theory.

### For comparison

The Classic Theory requires to cross the external Magnetic lines (Ho) by moving and rotating (in Space). But Theory of new Axioms and Laws requires to cross internal Magnetic lines (Ho) only by pulsating (in Time) of electrons. That is why the constructors are forced to use requirment of new Axioms and Laws. They are forced also to invent any kind of Conductor, called Modified Conductor.

### Conclusion

The necenery conditions by New Axioms and Laws are much more weakly in comparison of the same by the Classic Theory.

This weakly conditions permit the constructors to simlify the generator. This happens as make a Modified Conductor.

## Proposal for generators of electricity current

### The essence

The Modified Conductor should be a conductor with very specially installed dense nano-grid of internal lines of a permanent Magnetic field (Ho). As a result the pulsating electrons (due to the fact that they are connected with their respective pulsating protons, Axiom 2) have to hit these lines (Ho) from inside [8].

Thus the electrons (due to the fact that their bodies are eccentric dipoles, Axiom 1) will emit Electricity wave to one direction (to positive pole,+) with bigger amplitude than to the opposite direction (to negative pole, -). At the same time electrons will phase themselves along 3 coordinates (in 3D) (Figure 2c). This will be more than enough to get an Electricity Voltage between the two ends of the Modified conductor [9].

### The Modified Conductor

Designers create a Modified Conductor with 2 halves of Magnetic threads. The two halves carry different Magnetic poles.

One option is when the Magnetic threads are parallel and unidirectional, or anti-directional. When the Conductor has a rectangular cross-section the Magnetic lines pass from one pole to the other through the entire section of the Conductor almost parallel to each other (Figure 3).

The other kind of modified Conductor is with round cross section. The Magnetic lines will be radial unidirectional, or anti-directional (Figure 4).

### The Modified Conductor with rectangular cross section

#### Essense

We saw that the Modified Conductor can has a rectangular cross section. The dense network of Magnet threads (Ho) are at outer surface (2D) of the so-called Modified Conductor. This grid on two opposite surfaces has to create a dense network of Magnetic lines inside in the volume (3D) of Modified Conductor. In one direction of Magnetic vector one Magnetic pole should be (vor example) at upper surface. In opposite direction of Magnetic vectors the one Magnetic pole should be (vor example) at lower surface but other at upper surface [9].

To avoid this situation of subtracting the Electric waves and reducing the effect of phasing in Induction, the constructor must reverse the direction of the every adjacent lines of Magnetic force (Ho). Therefore, the directions of Magnetic lines must be arranged: up, down, up, etc (Figure 2b). If the electron touches the adjacent vector (Ho) that is in opposite direction to previous one (for exam-

ple Ho points down), then the point of touch is at opposite direction to the stable point (P4) Therefore this point of touch makes the electron unstable. Electron rotate its plane to inverse side and its (He) becomes parallel and unidirectional to (Ho). Its free end and convex part also points to positive pole (+) of Conductor [9].

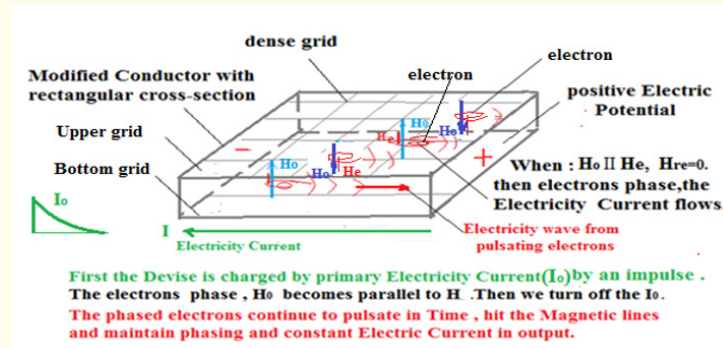


Figure 3: The Modified Conductor with rectangular cross section and parallel and anti-directional Magnetic lines.

Ideally, this Magnetic network has to have a distance (D) between the field lines (Ho) commensurate with the dimensions of the electron (d). In the real case it is enough the distance (D) to be twice more than dimension of electron (d):  $D = 2d$ .

From the above description we know that electrons pulsate in Time. The reason is the pulsation of their corresponding protons which rule them (Axiom 2). The purpose of the sufficiently dense network inside the volume (3D) of the Modified Conductor is to maximize the number of hits by pulsating electrons in Time. It will maximize the hits of electrons to these internal Magnetic lines of force (Ho). As a result of the impacts from the outside, the electrons will phase ( $H_e \parallel H_0$ ) their own Magnetic vectors (He) with the internal Magnetic vectors (Ho) until reset the Reaction vector ( $H_{re} = 0$ ). Therefore 3 vectors (Ho, He,  $H_{re}$ ) will stand parallel and unidirectional, until reset the third vector ( $H_{re} = 0$ ) (Figure 1d) [9]. And even more-resetting the reaction ( $H_{re}$ ) means that the active tails of the open vortices of the electrons will point to one and the same direction, according to the Right-hand Rule (Figure 2c).

**Attention**

The (He) is always parallel to (Ho) but (Ho) has alternative direction (to up or to down). Because (Ho) is unidirectional to (He), then (He) points or to up, or to down.

This action imitate an internal Electricity wave to positive pole (+) and an external Electric Current to negative pole (-) of the Modified Conductor. Because the direction of Magnetic lines (Ho) are alternative (up, down) then the own Magnetic vectors of electrons (He) are parallel and unidirectional to (Ho) and therefore have alternative directions (up, down) also.

The reason is that the electron will show its two opposite planes. At the upper electron plane (xe, ye) transverse vortex is coiled to left and in Gravity center is generated perpendicular vector (He) to up. At the inverse electron plane below (xe, ye) the transverse vortex is coiled to right and in Gravity center is generated perpendicular vector to down.

## Result

The He and Ho have alternative directions, but they are mutual parallel and unidirectional. Therefore the free ends and convex parts of electrons always point to positive pole (+) of Modified Conductor. This means that the Electrical wave also points to positive pole (+).

## Two modes of operation: passive and active

The described dense network of Magnetic lines on the top and bottom surfaces (2D) of the Modified Conductor can be converted from a passive Magnetic field (without supplied power) to an active Magnetic field (with supply power).

In case of active Magnetic field the power in input has to be least in comparison of the power in the output. This ratio will also determine the Coefficient of Useful Action. It is expected to be higher than unity. Its size will depend on the percentage of effective hits of the pulsating electrons in the internal grid of internal Magnetic field lines (Ho). This means that the Modified Conductor has to power up by permanent very low Electricity Current.

## Starting charging electricity current (Io)

At first, a charging Electric Current (Io) is started. Its magnitude and duration are specified by the material composition and electrical resistance. It is better to apply an Electricity impulse. The first front of impulse must be very steep and with a large amplitude. In order to preserve the phasing of the electrons from the first steep front, the rear front must be more inclined. It is even good for the rear front to be exponential (Figure 4). After the charging Electric Current (Io) is started, then the majority of the electrons are phased in the direction of the Conductor (in 1 x -dimension). In more detail, this means that the eccentric dipole of the electron stands perpendicular to the cross-section of the Conductor. Its free input end points to the Positive pole (+) because it is powered by it. Therefore the most part or convex of the eccentric also points to the Positive pole (+). Thus when the electron pulses in Time it emits a pulse with a higher amplitude towards the Positive pole (+) than the Negative pole (-).

The eccentricity is the reason the smaller part of the eccentric electron to emit towards the Negative pole a pulse with a smaller amplitude and the bigger part (convex part) of the eccentric electron to emit towards the Positive pole a pulse with a bigger amplitude.

As a result when pulsating, the electrons emit an result internal Electricity wave towards the Positive pole of the Conductor's power supply. This Electricity wave is moved inside the Conductor to Positive pole (+). And the opposite wave moves along the surface of the Conductor in the opposite direction- from the Positive to the Negative pole (-) of the Conductor's power supply. This opposite wave is known as Electricity Current. Therefore because of starting impulse, it is flow both - the internal Electricity wave to Positive pole and external Electricity Current to Negative pole of Modified Conductor. After some time, the Conductor is charged with a charging Electric Current. The majority of the electrons are phased in the direction of the Conductor, i.e. by 1 x -dimensionality.

## Result

Because of starting impulse (Io), it is flow both - the internal Electricity wave to Positive pole (+) and external Electricity Current to Negative pole (-) of Modified Conductor.

Then the charging current can be stopped. But Electricity current does not stop. The reason is that during pulsation (shrinking to minimum and expanding to a maximum diameter) the electrons hit the Magnetic Lines (Ho) and are self-phased, thus maintaining the magnitude of the Electric Current.

## Result

Because of pulsating in Time the electrons hit to Magnetic lines (Ho), self-phase themselves and maintain the Electric Current.

## In more detail, this happens as follows

The first phase is the phase of contraction, in which own Magnetic vector (He) in the Gravity center of the electron is maximum (Law 1). And this own vector (He) is phased (becomes parallel and unidirectional) with the Magnetic vector of the external magnetic field (Ho).

The second phase is the phase of maximum expansion in which the electron is struck from the outside towards the Magnetic line (Ho) and rotates its body (because Hre is appears) so that the distance from the outer point of impact to the Gravity Center (p.F) of the electron to be a minimal. If 3 vectors (Ho, He, Hre) become parallel and unidirectional and electron find the most stable point (P4) than  $Hre = 0$  (Figure 1d).

If the external Magnetic field ( $H_0$ ) consists of parallel unidirectional lines, then on the upper part of the surface (for example) is the South Pole, and on the lower part is -the North Pole, The direction of the force lines (for example) is from bottom to top. Then the electrons are phased by standing perpendicular to the lines and at the same time, they are also perpendicular to the cross-section of the Conductor (Figure 3).

But with parallel and unidirectional lines, there is a danger of reducing the efficiency of the internal self-phasing and therefore reducing the magnitude of the stored Electricity Current over time. This is because the electron may hit in the vector ( $H_0$ ) in optimal point (P4) where the distance to Gravity center is minimal and then electron is phased. But the same electron can hit the adjacent vector ( $H_0$ ) at opposite to optimal (P4) point, where the distance to Gravity center is maximal and mode of electron is not stable. Then electron make inverce in opposite plane (xe, ye) and then electron is phased, but it point its convex part to negative pole (-). When the electron stand with the convex and more powerful part towards the negative pole then its electric wave will be subtracted from the main electric wave of the majority of electrons.

To avoid this disadvantage the constructor has to make directions of magnetic lines alternativa: up, down, up...

## Result

If electron hits to adjacent vector ( $H_0$ ) with inverse direction (to down) it inverces in opposite plane (xe, ye) so that the transverse vortex points to right. The transverse vortex generates perpendicular vector to down (Law 1) and then electron is phased. Thus electron points its convex part to positive pole (+).

## Conclusion

Therefore, it is better for the magnetic field lines to be mutual parallel, but mutual opposite.

## Modified Conductor with round cross section

### Essence

A Modified Conductor with round cross section has very specially installed dense nano-grid of lines of an internal Magnetic field ( $H_0$ ) with anti-directional vectors. The Magnetic lines are radial as in direction from center to periphery, as from periphery to center.

As a result the free electrons (due to the fact that they are connected and ruled by their respective pulsating protons, Axiom 2) will pulsate and will hit these lines from inside.

Thus the pulsating electrons (due to the fact that their bodies are open eccentric dipoles, Axiom 1) will emit Electricity wave to one direction (to (+) potential) with bigger amplitude than to the opposite direction (to (-) potential). While the own perpendicular vector ( $H_e$ ) will point different directions, the plane of electrons (xe, ye) always will stay perpendicular to the cross section of Modified Conductor. The planes (xe, ye) always will stay perpendicular to ( $H_0$ ) but they turn their different sides - either top, or bottom. That is why the own perpendicular vector of electrons ( $H_e$ ) will point or to up (unidirectional to up with  $H_0$ ), or will point to down (unidirectional to down with  $H_0$ ) [8].

This is more than enough to create Electricity wave to one and the same directional- to positive pole (+) of Modified Conductor.

## Conclusion

The pulsating in Time and the eccentricity of electrons are more than enough to get an Electricity Current and Electricity Voltage between the two ends of the Modified Conductor with radial internal Magnetic lines.

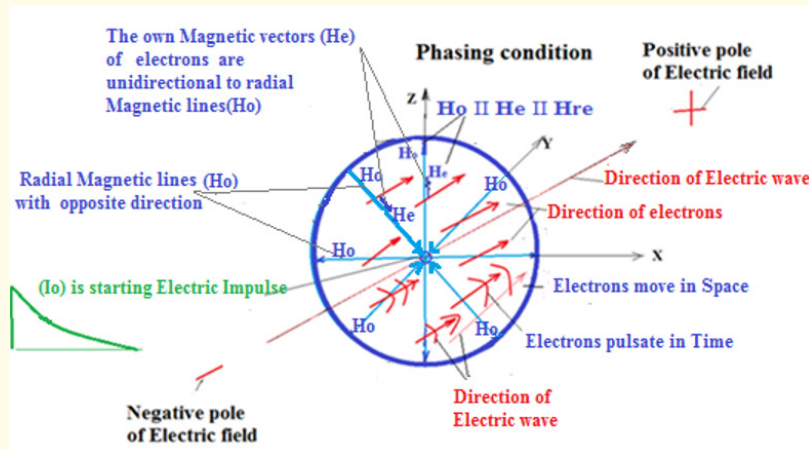
## Mode of operation of Modified Conductor with round cross section

### First action

At first, is applied a starting impulse of Electric Current ( $I_0$ ). Its magnitude is specified by the material composition and electrical resistance. Its first front of impulse should be steep, with maximum acceleration and amplitude. But its back front - to be sloping and with longer duration (or exponential) (Figure 4a). As a result after the Electric Current ( $I_0$ ) is started, the majority of the electrons are phased in the direction of positive (+) potential of the Conductor. This means that the dipoles of the electrons stand perpendicular to the round cross-section of the Conductor.

The free inputs (tails) of electrons point to the Positive Pole (+) and will power by it. This happens whenever the internal Magnetic vector ( $H_0$ ) points (for example) from center to up and ( $H_0$ ) is





**Figure 4:** A Modified Conductor with round cross section in radial and anti-directional vectors of Magnetic lines (Ho).

unidirectional to (He), or when adjacent internal Magnetic vector (Ho) points (inversely) from up to center, and (Ho) is also unidirectional to (He).

During electron pulsating in Time, the most part of their eccentric (convex part) point to the Positive pole, but the less part of their eccentric (flattened part) point to the Negative pole. Therefore when the electrons are pulsating in Time, they emits a pulse with a higher amplitude towards the Positive Pole than the Negative Pole (Figure 2a,c).

The reason is the eccentricity of pulsating in Time electron. The bigger and convex part of the eccentric electron emits towards the Positive pole a pulse with a bigger amplitude, the smaller and flattened part of the eccentric electron to emit towards the Negative pole a pulse with a smaller amplitude. Therefore when pulsating, the electrons emit an internal Electricity wave towards the Positive pole of the Conductor's power supply. This internal Wave is result from difference of amplitudes to positive (+) and to negative (-) ends. Or the internal Electric wave is a result of subtraction of the less wave (to negative pole) from the bigger wave (to positive pole) [9].

And the opposite wave, called outer Electricity Current, moves along the surface of the Conductor in the opposite direction- from the Positive to the Negative pole of the Conductor's power supply. During some Time interval a charging Electric Current (Io) flows. The length of Time required to initially charge the Electric Current

(Io) depends on material of Conductor and the amplitude of starting impulse (Figure 4). Thus majority of the electrons phase along the direction of length the Modified Conductor (by 1x -dimensionality).

### Second action

Then the Charging Current (I) can be stopped. Because the electrons ever have been arranged in Space, the electrons continue pulsation in Time. During the pulsation (shrinking to minimum radius and expanding to a maximum radius) the electrons hit the Magnetic lines (Ho) and are self-phased. Thus they maintain the magnitude of internal the Electric wave and also the magnitude of external Electricity Current without need of rotation a and movement.

### In more detail, this happens as follows

The phase of contraction, is when own radius of electron is minimum and own Magnetic vector (He) in the center of the electron is maximum (Law 1). This own vector (He) is phased (parallel and unidirectional) with the Magnetic vector (Ho) of the Magnetic field (He || Ho). The phase of expansion is when the electron strike itself from the outside the Magnetic line (Ho) and rotates its body (because Hre appears) so that the distance (D) from the outer point of impact to the Gravity Center of the electron to be a minimal:  $D (Ho - Hre) = \text{min}$ . (Figure 1d).

### In case the internal Magnetic field (Ho) is from radial lines with opposite directions

The direction of the force lines (Ho) (for example) can be from center to surface of Conductor or inversely. After Electrons are

arranged in Space, electrons continue to pulsate in Time. During pulsation (shrinking to minimum and expanding to a maximum diameter) the electrons hit the Magnetic Lines and are self-phased ( $H_e \perp H_o$  while  $H_{re} = 0$ ). The electrons are phased by standing perpendicular to the lines ( $H_o$ ). And at the same they stand perpendicular also to the cross-section of the round Modified Conductor (Figure 3).

If the direction of  $H_o$  is from the center to the surface (up), then the electron is located both perpendicular to  $H_o$  and perpendicular to the circular section. This happens as the transverse vortex of the electron is wound from the outside-in to the left, so that the free outer end points to the positive pole (+), and in its center of Gravity generates its own perpendicular vector ( $H_e$ ) with the same direction as  $H_o$  - from the center to the surface.

If the direction of  $H_o$  is from the surface to the center (to down), then the electron also is located both, its plane ( $x_e, y_e$ ) is perpendicular to  $H_o$  and also is perpendicular to the round cross section. This happens as the transverse vortex of the electron is wound from the outside-in to the right, so that the free outer end points also to the positive pole (+). At its Gravitational Center an own perpendicular vector ( $H_e$ ) is generated  $H_e$  (to down) - with the same direction of ( $H_o$ ) i.e. from the surface to the center.

Magnetic vectors ( $H_o$ ) have alternative directions in Space (up, down...), electrons turn their opposite planes ( $x_e, y_e$ ) (up, down,...). The electrons generate their own perpendicular vectors ( $H_e$ ) to opposite directions (to up, to down...), so that the  $H_e$  always becomes parallel and unidirectional to  $H_o$  in one and the same optimal point (P4).

### Conclusion

Because of hits to internal Magnetic lines ( $H_o$ ) the pulsating in Time electrons maintain for a very long Time the magnitude of internal the Electric wave and also the magnitude of external Electricity Current.

### The Advantages of the Modified Conductor with round cross section

#### The longest length of Time of storage of Electricity Current in Modified Conductor with round cross section

The length of Time in which the Modified Conductor will maintain the magnitude of the initial Electric Current depends primar-

ily on the thickness and density of the internal Magnetic lines ( $H_o$ ). But due to the fact that in the center the radial lines are closer to each other, the bigger number of pulsating electrons in the center will be greater than in the periphery. The internal Electric wave in the center has a greater density and amplitude than towards the periphery (below the surface) of the Modified Conductor.

### Result

The internal Electric wave in the center of Conductor has maximal density.

From this fact, it can be expected that right (under the surface of the Modified Conductor) at periphery the internal Electric wave will tend to zero. Consequently, in the opposite direction (above the upper surface) of the Modified Conductor the outer Electric current will also tend to zero.

### Result

The outer Electric current in periphery of Conductor (which is to the opposite direction to Electric wave) has minimal density and tends to zero.

For comparison: In an ordinary Conductor, the amount of electrons moving along all the longitudinal lines of the Conductor is the same. But those in the center experience less frictional resistance in the surface of the wire than those in the periphery. This is the reason velocity of Electricity wave in center to be much more than its velocity in periphery. Because the periphery layers feel more resistance than central layers in the periphery, the periphery layers will emit the transverse vortices (Law 5) swirl transversely outwards and turn themselves in the direction opposite to the original movement. Thus they form an external Electric wave in the opposite direction called Electric Current (Figure 2c) [5,6].

### Conclusion

For very long time the pulsating electrons which hit toward radial internal Magnetic lines ( $H_o$ ) maintain in center a maximal internal Electric wave and a minimal external Electricity Current in opposite direction.

Because radial Magnetic lines point or to surface, or to center of round Conductor the electrons generate in Gravity center  $H_e$  also point or to surface, or to center. But always  $H_o$  and  $H_e$  are parallel

and unidirectional and free ends and convex part of electrons point to positive pole (+) of Modified Conductor.

The Modified Conductor with round cross-section plays a role of Superconductor.

In the version of a Modified Conductor with a round cross-section, there are a radial arrangement of the internal Magnetic lines. Therefore, towards the center, the density of the Magnetic lines is much greater and the distance between them is much smaller than towards the periphery. This is the reason that in the center more numbers of electrons have a chance to hit the Magnetic lines than in the periphery. Thus in the center the Electric wave is more powerful than in the periphery. Because of more density, in the center the electrons will experience greater resistance than in the periphery. In the center the Electric wave is much power, but will have lower speed than in the periphery.

**In the periphery the Electricity wave is very weak but faster and arrives first in time (t1). In the center the Electric wave is powerful but slower and arrives last in time (tn). This is the reason, to appear a Reverse wave (Back wave) from the periphery (t1) to the center (tn) which is named an Electric Current. This Electricity Current flow in inverse direction-from periphery to center. Because it make a Standing wave in center it save its size. This phenomena imitates Super conductivity and this construction imitates some kind of Superconductor [7].**

### Result

A Reverse wave as Electricity Current appears from the periphery (in first time t1) to the center (in last time tn).

The reason is in the difference in the density of the internal radial Magnetic lines (Ho). In the center they are much denser, and in the periphery they are much more dispersed.

### Conclusion

In the Modified Conductor with a round cross-section internal Electricity Current imitates phenomenon of a some kind of Superconductivity and the Modified Conductor imitates Superconductor.

In the Modified Conductor with a round cross-section internal Electricity wave plays the role of a some kind of Superconductor and it not only generates the Electricity Current, but also accumulate it.

### Outward of the Conductor the Energy losses tends to zero

Energy losses by Electricity Current along external surface of the Modified Conductor tends to zero. We saw that the current density in the center is greater than the current density in the periphery. The reason is that the internal Magnetic field lines (Ho) are radial and in the center their density is greater than in the periphery. This fact directly affects the number of hits in Space and continuously pulsating electrons in Time. This means that in the center of the Modified Conductor the number of hits on continuously pulsating electrons will be greater than in the periphery. Therefore the Energy losses in periphery are minimal.

### Conclusion

The Modified Conductor with round cross section mimics a lossless battery.

In traditional Conductor the internal Electrical wave has maximal velocity in the center of Conductor (Figure 2c) [5,6]. For Modified Conductor with round cross section the central internal Electric wave also has maximum velocity. Beside velocity this central Electric wave has maximal power and amplitude. But in the periphery an internal Electric wave (under the surface of the Conductor) is obtained. It has a minimum velocity and amplitude, tending to zero. Therefore, in the opposite direction, the Electric wave (above the surface of the Conductor) called Electric Current, will also tend to zero. Therefore the external Electrical wave (called Electricity Current) has almost zero amplitude in opposite direction. This is a great advantage, because the energy losses outside the Modified Conductor will also tend to zero. This fact will help to preserve the initial arrangement of the electrons and, accordingly, to preserve the Electric Current for a longer time.

### Summary

The Modified Conductor with round cross section imitates a generator of Electricity Current and an Electric battery with mini-

mal losses that can store energy for a very long period of time on the principle of a Superconductivity.

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