ISSN: 3068-790X

Review Article

Scientific Knowledge Group

Journal of Modern Science and Scientific Methods

Device Simulating the Induction of Electromotive Force and Electric Current, Using a Surface Grid and Radial Magnetic Lines

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Abstract

This report describes a Device that simulates the Induction of Electromotive force and Electric current using a surface grid. The basis is a previous description of the reflex behavior of an electron when struck by a line of force from an external Magnetic field. This description is based on the structure of the electron according to the Theory of new Axioms and Laws. According to this Theory, the electron is formed internally by a highly decelerating transverse vortex. It causes a highly eccentric in the 3 coordinates body of electron. The new Device is cylindrical and the Magnetic lines of force are radially arranged. The surface of the Device is a grid of one Magnetic pole, and the axis of the cylinder is the other Magnetic pole. The action of the external impacts of the Magnetic lines of force on the electrons is replaced by input pulses of a very specific shape. They are generated by a High-Frequency pulse Generator and are fed between the surface grid and the axis of the device. The efficiency is in all cases higher than 1. It depends on the material of the Device, the number and mobility of free electrons, temperature, impurities, etc. This Device can generate a significantly large Electromotive Voltage at the output. A low-power High-Frequency pulse Generator powered by a small battery is required at its input.

Keywords: Electromotive Force, Electric Current, High-Frequency Pulse Generator, Modified Conductor, Radial Magnetic Lines, Electron Vortex, Axiom of New Physics.

Received: September 04, 2025;
Accepted: September 09, 2025;
Published: September 16, 2025

Introduction

The article uses the results and conclusions from the Theory of new Axioms and Laws. This Theory consists 2 new Axioms and 8 Laws.With their help the author has established the approximate shape of the elementary particles and in particular of the electron. Electron is formed by an open transverse vortex according New Axiom1.This transverse vortex, decelerating from the outside-in, generates an accelerating longitudinal vortex from the Geometric center-out (Law1) [2-4].

The Classic Axiom

It is known that Maxwels laws (1864) are based on a single ClassicAxiom(Figure 1a) [1]. It states that:

div rot E = 0 1

The author change a little this axiom as the movement of a vector E in an open loop (div rot E ≠ 0) .Or an open vortex (div Vor E≠ 0) is unevenly (velocity is variable: decelerating or accelerating).

It leads to the following results: Evenly movement is replaced with **unevenly** movement (decelerating or accelerating); The movement in a closed loop is replaced with movement in an **open loop** or vortex; During its movement decelerating vortex **emits** primary free cross vortices, while accelerating vortices **suck** in this primary free cross vortices; The movement in 2D is transformed into the movement in 3D as a cross vortices in 2D. It generates a longitudinal vortex in 3D through a special transformation and vice versa, a longitudinal vortex in 3D through another special transformation generates the cross vortices [2-4].

New Axiom 1

The motion of vector with monotone-decreasing or monotone-increasing velocity becomes along an open vortices :div (VotE) ≠ 0 for vector E in 2D or div (VotH) ≠ 0 for vector H in 3D [2].

div (Vor E)> 0 or div (Vor E) <0 in 2D, 2
div (Vor H)> 0 or div (Vor H) <0 for 3D.

Citation: Valentina Markova (2025) Device Simulating the Induction of Electromotive Force and Electric Current, Using a Surface Grid and Radial Magnetic Lines. J Modr Sci Scient Res 1: 1-6.

The main result of Axiom 1 is that there have been **4 types of vortices:** a transverse vortex in 2D (E2D) that can be self-accelerated(E2D+) or self-decelerated (E2D-) and a longitudinal vortex in 3D (H3D) that can also be self-accelerated (H3D+), or self-decelerated (H3D-) [3]. Therefore, if exists an open spiral, then it is accelerating or decelerating or velocity is variable even more-at every (i) point p(i) of a self-decelerating transverse vortex E there are two simultaneous movements: velocity vector (-V) and amplitude of the cross vortex(-W). The two simultaneous movements (V and W) exist at determines points of the vortex. According Law1 the transvere vortex (E2D-) is transformed into a longitudinal vortex (H3D+). This is accomplished through a specific operator (Δ1) for cross-longitudinal transformation. Thus the transformation Δ1 connects two spaces(2D and 3D) with different qualities.

Law 1 for Elecron

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

Δ1-

Vor(E2D-) => Vor (H3D+) **3**

Actually it describes in 2D the model of electron as the decelerating inward vortex (dec (e-)) [2].

Free Electron

The electron of type (dec(e-)) is of outer orbits or is free electron:" expanded transverse vortex "pulsates in 3D in two modes of: in and out. Surely this type of electron or rotates at outside orbits (orbitals) or exists outside of the atom as free electron. This type of electron(dec(e-)): when the electron is free (outside of the atom) has decelerating cross vortex (E2D-) inward, which generates an accelerating longitudinal vortex upward (H3D+) (Fifure2).

Result: When electron is free (type (dec(e-)), the decelerating cross vortex (E2D-) is broken.

But accelerating longitudinal vortex (H3D+) radiates a fast ingredient that connects to the decelerating longitudinal vortex (H3D-) at input of the proton.

Result: There is a significant difference in the states of a bound electron and a free electron.

For example scientists measure the mass of a free electron with a decelerating cross vortex (E2D-) But the mass of bound electron is less than the mass of free electron.

Law 5 for Electron

The deceleration vortex in 2D is described with a system of 2 equations in which: longitudinal velocity (V) decreases in (n) portions(quants) (ψn) times; the amplitude (W) increases in (n) portions(quants) (ψ n) times:

I V(t)2= V0 (Vo – V(t)), 4 .

I W(t)2 = W0(Wo +W(t)),

where vn, wn n are periodic roots with period n; vn, wn are mutual orthogonal that fulfill the requirement for orthogonality: vn.wn = V0.w0, vn.ωn = V0.W0 ; n = 0 ÷ ∞; the roots vn, wn are expressed as: vn= (1/ψn).V0, ωn =ψn.W0; linear velocity V0 is the starting value of Vn , amplitude of cross vortex W0 is the starting value of ωn; ψ is a proportional that fulfills the requirement: ψ-1/ ψ =1; t is continual and even,Vn are uneven(-decelerated) and V(t) is nonlinear.

Structure of Electron According New Axioms and Laws

According to Axiom 1 every non-uniform vortex with variable velocity is an open vortex. According Law1 an electron generates by the self- decelerating vortex from outside to inside so this is an open vortex.The velocity vector at the entrance is greater than the velocity vector of the opposite point. Thus the spiral will move up to the bigger vector or to higher speed. And the left vector is greater than the velocity vector of the opposite point from the left.

Result the Electron is Strong Eccentric

The spiral will shift to the left to the higher speed. Thus, the whole spiral shifts up and to the left, and the spiral of the electron changes from centric to eccentric (Figure 2).

Result: The whole spiral shifts up and to the left.

This means that the center of the spiral from the position of the Geometric center(O) moves up and to the left towards a new center in **second (II) quadrant**, called the Gravity center(G).

Result: The Geometric center moves to new Gravity center in second quadrant.

The Eccentricity vector (OG) determinates the distance between the Geometric center (O)and the Gravity center(G) (Figure 2).

Result: The distance between the Geometric center and the Gravity center determines the magnitude of the Eccentricity vector (OG).

It turns the spiral of the electron from centric to eccentric.

Result: The transverse spiral of the electron becomes strongly eccentric spiral

Meanwhile a fundamental role of this Eccentricity vector (OG) is that its projection along the x-axis repels the electron from its personal proton, and its projection to the y-axis rotates the bonded electron around its personal proton. But in this article, we will describe only movement of free electrons.

According to Law1 each transverse vortex generates in its Gravitational center a longitudinal vortex, perpendicular to the plane of the transverse vortex. In the case of the electron, the decelerating transverse vortex from outside-in generates in the Gravitational center a longitudinal accelerating vortex, perpendicular to the plane of the transverse vortex (Figure2).

Result: The Decelerating Transverse Vortex of Electron Generates an Own (He) Perpendicular Accelerating Longitudinal Vortex.

According to Law5, each main decelerating vortex of electron radiates outward from itself **decelerating primary vortices.** These primary transverse vortices are concentrated at the Gravitational center (G). In this center are phased all primary transverse vortices. They generate a longitudinal accelerating vortex

through full resonance (in Time and Space). These primary transverse vortices represent r**adiated heat energy** and fill the body of the electron **with heat** (Figure 2).

Result: The Transverse Vortex of Electron is Not Empty. It is Full of Primary Decelerating Transverse Vortices That Concentrate in the Gravity Center (G).
Because primary vortices have great negative acceleration, they emit warm and heat (Law5).

Result: The Primary Decelerating Transverse Vortices Fill the Central Part of Electron Body with Heat.
According to the Axiom1, transverse and longitudinal vortices are obtained. The transverse vortices in the face of the electron and proton reflect the transverse waves of the Sun's rays, and any outside observer can see these particles. The result is that electrons and protons are visible to an external observer.

Result: Most of free and/or bonded electrons are visible.
But unlike the transverse ones, the longitudinal vortices do not reflect the transverse waves of the Sun's rays. Reaching the thin thread of the longitudinal vortex, the transverse waves diffract. This means that transverse wave bypasses the longitudinal vortex and continue in their previous direction and with their previous speed. According to Law 1, an accelerating longitudinal vortex perpendicular to the plane of the transverse vortex is generated at the Gravitational Center of the decelerating transverse outside-in electron vortex.

Result: The perpendicular longitudinal vortex generated in the Gravitational Center of the electron is also invisible to an external observer.
This longitudinal accelerating vortex in Gravity center is also invisible to an external observer because it reacts with diffraction of the transverse wave of Sun light.

Working Mode of Free Electrons

a) Pulsating of free electrons in Time [5].
Free electrons are outside the atom and move freely in a lattice of metal atoms. The free electrons pulsate just like the connected electrons.

Result: Free electrons expand to a toroid and contract to a spindle.
On each half-period (T/2) the electron expands to a swollen and flattened toroid and on the next half-period (T/2)- contracts to an elongated spindle

b) Pulsating of Free electrons in Space [6].
If the electron receives a sufficient dose of external energy (for example from **light quanta**) this electron **increases the radius and swells up.** It increases the radius so much that the transverse bond with its personal proton is broken and the electron flies out of the atom or lattice of atoms and becomes a free electron.

Result: Free Electron Disconnects the Transverse Link with His Personal Proton, Because Electron Maximum Swells Up and Maximum Repells by the Proton.
However, the free electron keeps the longitudinal connection with its personal proton. The free electron repeats the pulsations of the personal proton. Consequently, flying out of the atom or from the lattice, the free electron continues to pulsate with the pulse of its proton. This kind of link is more energy kind of link than material kind of link.

Result: The Free Electron Keeps the Longitudinal Connection with Its Personal Proton Like Energy Link.
There are metals or metal grids with a maximum of free electrons (conductors). These electrons exist like inflated electrons in the form of balls: they move chaotically in Space and pulsate chaotically in Time.

Proposal for Generator of Electricity Current

The Essence

The scientists are forsed imitate the phenomenon of the of flowing the Electricity Current, according new Axioms and Laws. The constructors are forced to invent a strongly Modified Conductor . It should be a Conductor with very specially installed dense grid on its surface and of internal radial lines of a pulsating Magnetic field.

According Axiom2 the electrons are connected with their respective pulsating protons .As a result the electrons pulsate in phase to the pulsating of protons and they have hit pulsating Magnetic lines. According Axiom1 the electron bodies are strongly eccentric dipoles .The internal Electricity wave in Modified Conductor creates so called electromotive force. During Induction the internal Electricity wave or Electromotive force flows. The reason is that because external hits the electrons must phase along 3 coordinates in volume 3D.

Even more-these dipols will emit Electricity wave to one direction with bigger amplitude than to the opposite direction. This will be more than enough edn to form an Electromotive force of Internal Electricity wave between the two ends of the Modified conductor [6]. Thus the inductive Electromotive force of Internal Electricity wave has inverse direction to Electricity Current in supplied of Electricity Voltage.

The Modified Conductor

Designers create a Modified Conductor with 2 poles of Magnetic field. The two parts carry different Magnetic poles (Figure1), This option is when the Magnetic threads are radial to each other. In exists the Modified Conductor with a cylindrical form with circle cross-section. That is the reason the Magnetic lines pass from one pole to the other through radius of the Modified Conductor radial to each other. Thus one pole must place on surface of Conductor an other pole- on central axis (Figure 1).

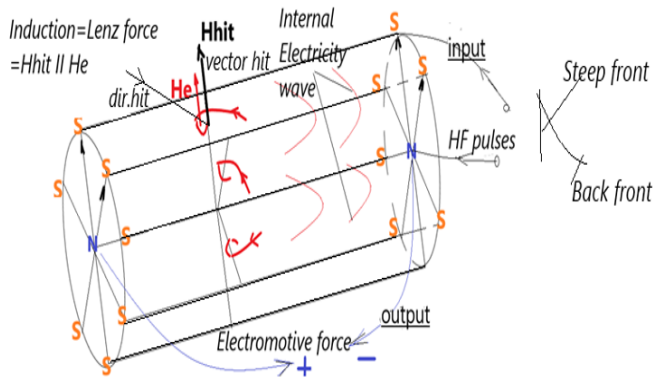

Figure 1: The Device as a Modified Conductor with Installed Radial

Magnetic Lines

Initial Position

The external Magnetic lines strike the electrons in a pulsed manner. For this purpose, it is good that the external pulses to be saw–tooth shaped. This means that the leading edge to be very steep and the trailing edge to be sufficiently gentle.

According to Axiom 1, the body of the electron is a strongly stretched dipole. Moreover, it is eccentric both in length and in height. According to Axiom 2, electrons pulsate synchronously with their controlling protons and therefore an external factor cannot interfere with this pulsation.

Phasing in 3 Coordinates

The Modified Conductor is surfaced with the sufficient dense magnetic grid of one pole (for example South pole). The grid is supplied by the sufficient high frequency of external impacts of the external Magnetic lines on the internally pulsating electrons. Given enough time, an average percentage of the electrons (for example 30 percent) will phase in the three coordinates. This means that the electron rotates so that the external vector Hhit of the impact of the external Magnetic field lines becomes parallel to the internal vector He of the longitudinal vortex passing through the gravitational center of the electron: Hhit II He [5,6]. This phasing occurs radially and parallel to the direction of the external pulsating Magnetic lines: for example, North in center and South in surface of Conductor. But always the direction of the dipole (and the free entrance tail of the electron) will be directed to one and the same end of the Modified Conductor. At this end, a negative pole (-) of the Electromotive Force or the internally induced Electric Wave appears.

The reason is that most of the eccentric body (together with free input- tail of electron) points to one pole. In Induction the result is that when the electron pulses it emits a pulse with a higher amplitude towards one and the same Pole and form the Negative Pole (-).

Therefore, in Induction the eccentricity is the reason the bigger part of the eccentric electron to emit towards so called Negative Pole a pulse with a bigger amplitude. The eccentricity is the reason the smaller part of the eccentric electron to emit towards the opposite Pole a pulse with a smaller amplitude.

Result: In Induction electron is hit in external pulsating Magnetic lines and phase in Space in 3D.

Result: In induction electrons pulsates in Time or they phase in Time. They emit an internal Electricity wave or Electromotive Force towards one Pole more than to opposite Pole and form a Negative Pole (-) of the Conductor [4,5].

The Constructions with Round Cross –Section and with Radial Magnetic Lines

Behaviour of Free Electron Under Induction

According to Axiom 1, the electron is a strong eccentric. The reason is that the transverse vortex that is wound in the plane 2D of the electron is strongly retarded. According to Law 5, the retarded vortex emits primary transverse vortices from itself outwards (Figure 2, the orange vortices).

a) Mode of Electric Motor: Lorenz Force

When is Mode of supplied external Electricity Voltage than electrons move towards the external positive pole (+) They are arranged and phased in 1D along the axis of the Conductor, perpendicular to the cross-section of the Conductor. According to Law 5, the direction of the primary vortices is from the periphery of the eccentric to the geometric center (Figure 2, the orange vortices). Thus, the primary vortices are not exactly perpendicular but are inclined to the Geometric center (G). These primary vortices create the Lorentz force according the Right-hand Rule for electrons (Figure2). Thus, the inclination is the reason for them to rotate the electron in a parabola and even in a spiral.

The Right Hand Rule states: If we place the palm so that the external Magnetic lines enslave the palm from bottom to top, then the fingers will indicate the movement of the electrons and the thumb will indicate the Lorentz force (Figure2).

b) Mode of Induction: Lenz Force

Induction mode when the conductor with randomly arranged electrons is crossed by magnetic force lines. A **Lenz force** arises is in the opposite direction to the Lorentz force according the **Left Hand Rule** for electrons.

The Left Hand Rule states: If we place the palm so that the magnetic lines enslave the palm from bottom to top, then the fingers will indicate the movement of the electrons and the thumb will indicate the Lenz force.

Then this Lenz force disciplines, arranges and phases the eccentricities of the electrons so that their own magnetic vectors He become parallel to the external vectors Hhit of the magnetic force lines: **He II Hhit** (Figure2) [5,6].

Construction of Modified Conductor

We saw that the Modified Conductor can have circle cross –section. The dense network of magnet treads at outer surface of the so-called Modified Conductor is to create a dense network of Magnetic lines radial in the volume. Because cross –section is circle one Magnetic pole should be at upper surface, but the other –at center of Modified Conductor.

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

From the above description we know that electrons pulsate in Time. The reason is the pulsation of their corresponding protons (Axiom 2). The purpose of the sufficiently dense network inside the volume (3D) of the Modified Conductor is to maximize the number of naturally pulsating electrons in Time. It will maximize the hits of electrons to these internal Magnetic lines of force (Hhit). This means that the active tails of the open vortices of the electrons will point and build in to the one and the same direction, according to the Left-hand Rule (Figure 2). This action will imitate the flow of an Electric Current in the indicated direction of the Modified Conductor [5,6].

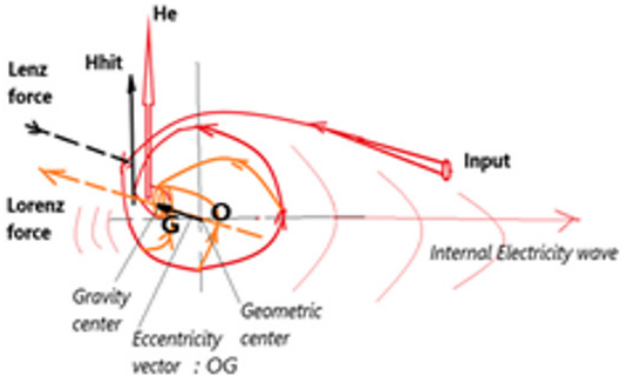

Figure 2: Explanation of Results

The Results of Imitation of Induction

a) Phasing in 3D

At the input of the Device, high-frequency saw-tooth pulses are applied, and at the output of the device, an induced Electromotive Voltage is obtained. The external impacts of the forcedly pulsating magnetic lines with high-frequency pulses on the naturally pulsating electrons cause the electrons to rotate and seek and find their most stable position against the impacts. This stable position coincides with the minimum potential energy of the electron against external impacts Hhit. The electron is maximally stable when the vector of the external impact Hhit becomes parallel to the eigenvector of the longitudinal vortex He of the electron generated in its gravitational center: **Hhit II He**, (Figure 2) [6].

-Then all the electrons are aligned and phased so that their open inputs - tails and most of their eccentric bodies are directed to the same inducting output (-). But the smaller part of their eccentric bodies is pointed at the opposite output (+). In this way, when the larger parts pulsate, a larger internal electric wave is emitted than is emitted by the smaller parts. This predominant wave determines the negative inducting output, and the smaller wave - the positive inducting output of the Device.

b) Leading Front Causes Induction by the Lenz Force (Left Hand Rule)

The leading front of the input pulse is maximally steep (Figure 1). It hits the electron from the outside- inward and the electron rotates so that the distance from the impact to the center of Gravity is minimal. Thus, electrons are shrunk. The phasing is performed in 3 coordinates (3D). As a result, a significant percentage of the electrons arrange with their open inputs tails to the same output and also direct their larger portions of electron eccentric body to the same output (-). Thus, during pulsating in Time, when electrons shrink, the larger portions of these phased electron bodies will emit a larger Internal Electric wave to this same output, than the smaller portions. A negative potential is obtained at this output (-) of so-called Electromotive Voltage.

Thus, the leading front causes attracting of external Magnetic lines to electrons. Therefore, the leading front causes the phenomenon of Induction. The direction of the impact coincides with the direction of the Lenz force (Left –handed Rule for electrons). The leading front (Figure1) causes the phenomenon of Induction and the direction of the impact coincides with the direction of the Lenz force (Figure2).

Result: The Leading Edge of the Feeding High-Frequency Pulses (Figure1) Attracts the Electrons by the Lenz force (Left-handed Rule for the electron) (Figure2).

c) The Trailing Front Causes the Phenomenon of Repulsion of Electromotive Force by Lorentz Force

The trailing edge of the input pulse is maximally inclined (Figure 1). It it repells the electron. Thus, the electron expands and according to Law 5 the electron's transverse vortex emits primary vortices with a direction from periphery to inward towards the Gravitational center (G) (Figure 2 orange vortices). Therefore, in Phase of expanding in Time, these phased electrons will emit maximal long primary vortices with a direction towards the Gravitational center.

Result: The Trailing Edge of the feeding High-Frequency Pulses (Figure1) Repels the Electrons by the Lorentz force (Right-handed Rule for the electron) (Figure2).

Efficiency

We learned from the description in Figure 1 that high-frequency saw- tooth pulses are supplied to the input of the device, and an induced electromotive voltage is obtained at the output of the Device. It is not necessary the input Power of high-frequency input Generator to be high. It is necessary that the frequency at the input be as high as possible and the shape of the input pulses be saw-tooth. This means that the leading edge of the pulse is as steep as possible and the trailing edge is admissibly sloping. Thus, the Power of the high-frequency Generator can be very low.

But it is necessary the output Power to be high. It is proportional to the number of phased electrons in Modified Conductor.

At the output, an Electromotive voltage with a negative pole (-) and power proportional to the number of phased electrons is obtained. It is expected that the Power of the output of the Device to the Power supply at the input of the device be much above unity. Or the Power obtained at the output be much greater than the input power

Result: Input Pulses is very High Frequency and Low powered, but output Electromotive force has maximal constant Amplitude and Power (without frequency)
Result: Efficiency is more than unity.

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