Interaction between the Active Functions and Electric Forces of Elementary Particles(8)

-Interactions between electric fields take place inside elementary particles.-

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Abstract

1. All elementary particles permanently repeat autonomous vibration. Elementary particles which autonomously vibrate can produce electric fields in waves indefinitely. Electric fields can be classified into negative electric fields and positive electric fields. Here, the negative electric fields of electrons have a protrusion wave with high pressure. However, the positive electric fields of protons have a depression wave.

2. The expansion energy of elementary particles and the downward wave are dominant in the occurring process of the attraction of electric force. On the other hand, the expansion energy and the upward wave are dominant in the occurring process of the repulsion of electric force. The interaction of electric fields is manifested by the autonomous vibration of elementary particles while kinetic velocity and momentum are determined inside the particles.

Sequence

Ⅰ. Introduction

The fundamental force which is at work in between elementary particles is called "Fundamental interaction". The "Fundamental interactions" of elementary particles reflect the connective function among them. Today, modern physics classifies the "Fundamental interactions" of elementary particles into four: nuclear force, electromagnetic force, weak force, and gravity. However, in the author's theory of absoluteness, "Fundamental interactions" are classified into three, which are nuclear force, electric force, and gravity, while excluding weak force and magnetic force.

The reason for excluding weak force in the Fundamental interactions of elementary particles is that weak force does not reflect the connective function among the elementary particles and works in a controlled manner inside the neutrons. In short, a weak force reflects the situation inside the particles. Moreover, a weak force caused by the fission of the neutrons does not affect the motion of other particles.

The electric force is excluded because it does not reflect the connective function among the elementary particles. In other words, an electric force reflects the properties of space while not being in motion in between elementary particles. In addition, although magnetic forces are created by the electric current of the electrons(the displacement of electric force), static electrons do not produce a magnetic force. Here, the source of magnetic force begins from the Batangs, and the Batangs of space possesses a magnetic force.

As discussed in the previous thesis "Elements in Space and the Condition of the Existence of Light Waves", space consists of the Batangs of physical factors. The form of light waves(electric waves) is composed of a combination of magneto-optical and photo electric current. However, the

magneto-optical and photoelectric current only retain their interactive relationship and exist in entirely different forms. For instance, the magneto-optical which comprises a light wave appears on the spot and the photoelectric current propagates at the speed of light.[6]

    <http://batangs9.com/E-6.pdf>

    Magnetic force and electric force have entirely different emerging processes and their basis for foundation are very different. This means that electric force is produced by the autonomous vibration of elementary particles and reflects the properties of elementary particles. Electric force is at work among elementary particles. Therefore, the magnetic force which reflects the properties of space, and the electric force which reflects the properties of elementary particles, must strictly be distinguished.

    The Fundamental interactions of elementary particles occur from the connective functions between two elementary particles and the Fundamental interaction force must be present progressively at work. Moreover, all elementary particles must simultaneously have a function of producing energy fields and a function of responding to the energy fields. The various ability and demand of elementary particles cannot be addressed by the elementary particle model in quantum physics.[7]

    <http://batangs9.com/E-7.pdf>

    Just like the author's argument, when all domains in space are filled with the Batangs(medium of light waves) of physical elements, solid elementary particles such as sand particles cannot exist. This is because the matrix in space interrupts the motion of elementary particles. Therefore, in a space composed of Batangs, a new paradigm of elementary particle model must be adopted.[3], [10]

    The body of the thesis will discuss the condition where the electric force of elementary particles is created indefinitely. Moreover, it will also examine the process where the motion(interaction of electric force) of

elementary particles occur autonomously due to the properties of electric force. Furthermore, the process where attraction and repulsion forces are determined by the properties of the electric force, will be explained.

II. Discussion
1. Structure and condition of the existence of a negative electric field

It has been recognized in modern physics that the electrical charges of elementary particles are composed of real elements(substances) and that the electric fields are formed by the elements of electrical charges. In other words, the elements of electrical charges were assumed to be the source of electric force. In this understanding, the electrical charges only produce electric fields and they do not serve any other purpose.

An electric field in the author's theory of absoluteness is composed of waves of the longitudinal model and the waves of electric fields exist in the medium of Batangs in space. These waves of electric fields can be permanently produced by elementary particles which "autonomously vibrate"(self-vibration). In short, elementary particles with "autonomously vibrate" have a function of generating an electric force.

When a strong light wave energy collides in space composed of a Batangs, the light wave energy can be transformed into static vibration energy. Here, the vibration energy in the static state indefinitely repeats the "autonomously vibrate" of contraction and expansion, and the particle model system is permanently preserved through the "autonomously vibrate". The permanent preservation and maintenance of "autonomous vibration" signifies the occurrence of the creation of elementary particles.

If elementary particles continue their autonomous vibration of contraction and expansion in space composed of Batangs, the Batangs tunes with the vibration of elementary particles and the effect of the alignment transforms into wave energy. The tuning wave energy is expressed as inertia(causal

function of gravity), electric field, and nuclear field. In other words, inertia, electric field, and nuclear field form simultaneously at the autonomous vibration of elementary particles. Nevertheless, these exist in different conditions and have different functions.

Elementary particles with autonomous vibration produce energy fields(gravitational field, electric field, and nuclear field) indefinitely and the energy field provides a condition where it can be in motion autonomously from other elementary particles. In other words, an elementary particle with autonomous vibration simultaneously has a function to produce and react to energy fields. Moreover, the autonomous vibration of contraction and expansion energy permanently maintains an equilibrium by having the same magnitude. Therefore, even if an elementary particle with autonomous vibration produces an energy field indefinitely, the vibration energy of the elementary particle itself is not consumed or lost.[7]

<http://batangs9.com/E-7.pdf>

The autonomous vibration of protons and electrons work in different ways. The contraction and expansion energy which comprise the autonomous vibration of the proton and the electron, work in a different form again. In other words, the propagation speed and the operation time are different for contraction and expansion energy. Nevertheless, the dynamic scale of contraction and expansion energy permanently maintains a perfect equilibrium at the same magnitude.

Next is an examination of the situations where the contraction and expansion energy of electrons behave differently. The two kinds of energy are propagated at different speeds and have different magnitudes of working pressure. This is because the elasticity of the Batangs which is used as a medium, reacts at different levels of the contraction and expansion energy. For example, the Batangs of the expansion process has a higher elasticity(faster speed) than the general speed of light and the

Batangs of the contraction process has a lower elasticity(slower speed) than the general speed of light.

The tuning waves of the Batangs form around the electrons that autonomously vibrate, and they are composed of push and pull in the front and rear direction which are forward and backward waves of the longitudinal model. Likewise, the wave dispersion area around the electrons will be referred to as "negative electric field" for convenience. Here, the waves of the "negative electric field" is represented by the model diagram in Figure 1.
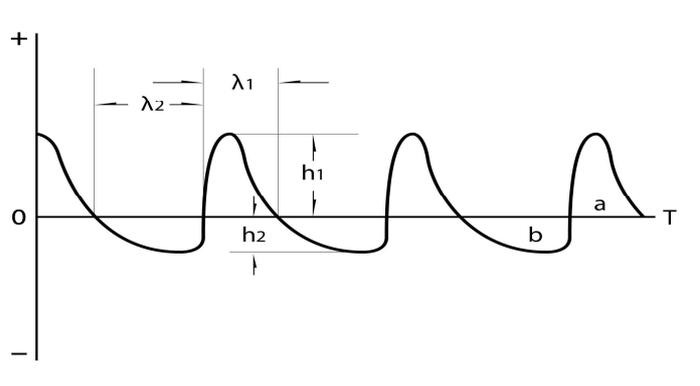

Figure 1. Model diagram of the longitudinal waves which comprises the electrons

In the model diagram at Figure 1, the + and − of the coordinates refer to the energy density. Moreover, h_1 refers to the height of the upward wave, h_2 refers to the height of the downward wave, λ_1 refers to the wavelength of the upward wave(operation time), and λ_2 refers to the wavelength of the downward wave. The wave energy in the negative electric field in Figure 1 rises to a steep slope and goes down with a gentle slope.

As shown in the model diagram at Figure 1, the expansion process of the electron works at a high pressure and fast propagation speed(short

operation time) while the contraction process works at a low vacuum force and slow propagation speed(long operation time). These upward and downward waves of the negative electric field are formed in contrasting forms. Here, the domain of the upward wave (a) and downward wave (b) are formed by the same area and maintains a perfect equilibrium permanently.

Assuming the absolute value of the upward wave in the model diagram at Figure 1 is $|h_1|$, and the absolute value of the downward wave is $|h_2|$, the difference between the two waves is the change in the pressure, $|h_1|-|h_2|=h_u$. Here, the area that has a difference in pressure of h_u will be referred to as the "protrusion wave" of the negative electric field for convenience. The h_u of "protrusion wave" which the negative electric field of the electrons is represented by the model diagram in Figure 2. The protrusion wave of the negative electric field is formed indefinitely around the electrons and propagated at an elasticity of the speed of light.
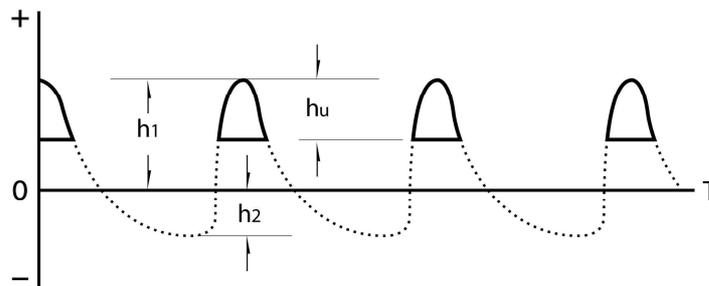

Figure 2. Model diagram of the protrusion wave which comprises the negative electric fields of an electron

The upward wave of the negative electric field has a function of positive electric force, while the downward wave has a function of negative electric force. Therefore, in the domain of negative electric fields, the positive electric force and negative electric force coexist simultaneously. However, the positive electric force of "protrusion wave" acts dominantly while the negative electric force of the downward wave acts recessively. Electrons with this condition can be mistaken for only producing the positive electric

force of the "protrusion wave". Moreover, it can also be mistaken that a negative charge actually exists inside an electron.

2. Structure and condition of the existence
of a positive electric field.

The tuning waves of the Batangs form around the protons which autonomously vibrate, and the tuning waves of the Batangs have a symmetrical structure that is the same with the autonomously vibrating protons. Likewise, the dispersion area of the waves formed around the protons will be referred to as "positive electric field" in the discussion for convenience. The waves of the "positive electric field" is represented by the model diagram in Figure 3.

In the model diagram at Figure 3, the + and − of the coordinates refer to energy density. Moreover, h_3 refers to the height of the downward wave, h_4 refers to the height of the upward wave, λ_3 refers to the wavelength of the downward wave(operation time), and λ_4 refers to the wavelength of the upward wave.
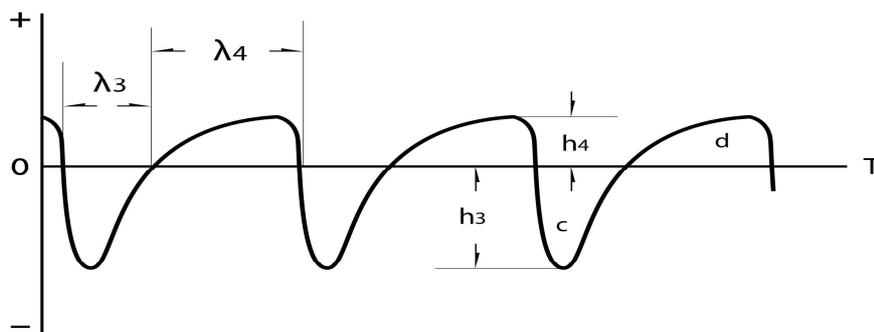

Figure 3. Model diagram of the longitudinal wave which comprises
the positive electric field of protons

In the model diagram at Figure 3, the wave energy of the positive electric field goes down to a steep slope and goes back up at a gentle slope. In other words, the contraction process of protons work with high

vacuum force and fast propagation speed(short operation time) and the expansion process works with low pressure and slow propagation speed(long operation time). Here, the domain of downward wave (c) and the domain of upward wave (d) are composed of the same area dimension and maintains a perfect equilibrium.

Assuming the absolute value of the downward wave in the model diagram at Figure 3 is $|h_3|$, and the absolute value of the upward wave is $|h_4|$, the difference between the two waves is the change in the pressure, $|h_3|-|h_4|=h_d$. Here, the area with the difference in pressure of h_d, will be referred to as the "depression wave" of the negative electric field for convenience. The "depression wave" is represented by the model diagram in Figure 4.
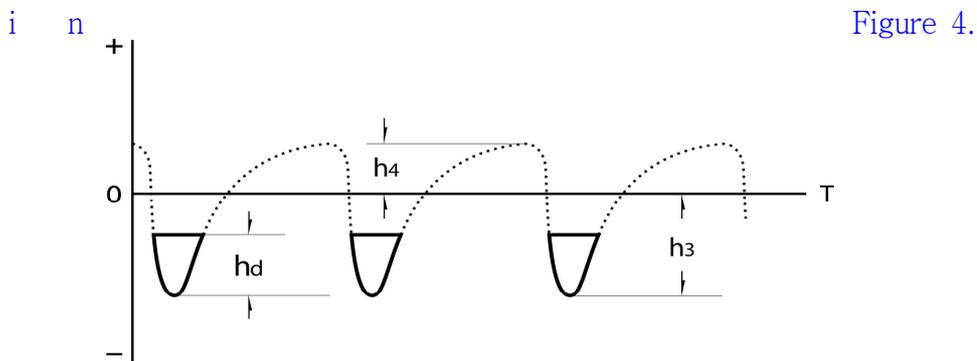

Figure 4. Model diagram of the depression wave which comprises the positive electric field of protons

In a positive electric field, a downward wave has a function of negative electric force and the upward wave has a function of positive electric force. Here, the negative electric force "depression wave" is dominant while the upward wave of the positive electric power is inferior. A proton with the given conditions can be mistaken to produce only the "depression wave" of negative electric force.

3. The Principles in the Occurrence of Attraction in Electric Force

In the process where the Fundamental interactions of elementary particles are formed, no additional energy is supplied externally and no elements of elementary particles(energy, mass, etc.) is consumed. In short, the Fundamental interactions of elementary particles are not governed by time and occurs indefinitely.

The wave of electric fields formed around elementary particles get to have an identical or smaller diameter with elementary particles. When the wave of the electric field is applied on a subject with a diameter greater than that of elementary particles, the difference between the upward (protrusion) and downward(depression) waves is not evident. However, when it is applied on a subject with a diameter smaller than that of elementary particles, the difference between the upward and downward waves is evident, and the functional characteristics of the two can be put into good use.

In the process where Fundamental interactions of electric force occur, the vibration energy of elementary particles and the wave energy of the electric field are at work. Moreover, electrons with autonomous vibration get to have an independent position in motion. Here, the process of electron motion proceed just like the form in Figure 5.
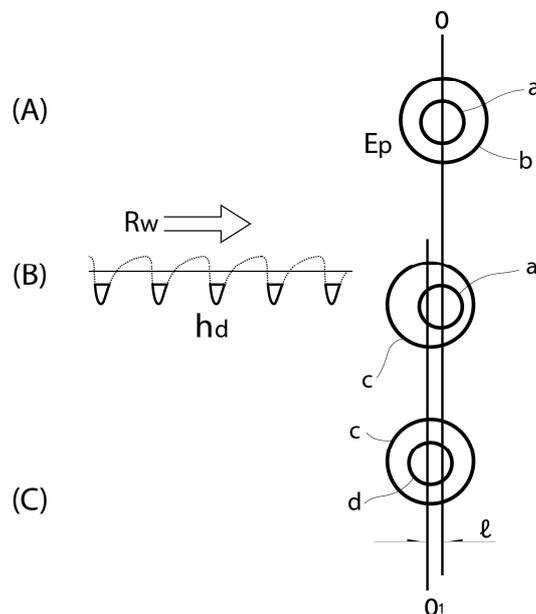
Figure 5. A situation diagram of the process in which the depression wave of the positive electric field, and the contraction energy of an electron are at work

The E_P on the right side of (A) in Figure 5 is an electron with autonomous vibration, O is the central axis of an electron, a is the contracted state of an electron, and b is the expanded state of an electron. The R_W on the left of (B) in Figure 5 is the wave energy of the positive electric field, h_d is the depression wave, a on the right is the contracted state of an electron, while c shows the expanded state of an electron. In addition, d on the right side of (C) in Figure 5 is the contracted state of an electron, O_1 is the central axis of an electron, and ℓ refers to the displacement of electrons in motion.

As shown in Figure 5 (B), when the expansion energy of an electron and the depression wave(h_d) of positive electric field are at work, the expansion energy of an electron is absorbed into the vacuum area of the depression wave and the volume of the electron expands to the left. Therefore, the central axis(O_1) of an electron that finished the expansion would move at a distance ℓ to the left. In the movement of the electron, the depression wave of the positive electric field is sacrificed and consumed(cancelled). In other words, the sacrifice of the depression wave is converted into the motion of an electron, and the motion of the electron is done independently through the role of autonomous vibration.

As shown in Figure 5 (C), in the process where the expanded state c transforms to the contracted state d, the central axis(O_1) of an electron makes a displacement of ℓ to the left. The action does not have a linear uniform velocity, rather, it repeats the stop and go just like the wave model in the positive electric field. However, due to the role of the depression wave, the motion in forward direction has a dominant force. Moreover, the impact of the motion of electron progresses permanently as

it continues to do autonomous vibration of contraction and expansion.

The expansion energy of the depression wave(h_d) and the electron(E_p) in the positive electric field are both dominant. This is because the depression wave and expansion energy have a high potential energy(pressure or vacuum force). On the other hand, in the process where the expansion energy of an electron and upward wave of the positive electric field are at work, weak repulsion forces of electrons form. Furthermore, in the process where the contraction energy of an electron and the depression energy of the positive electric field are at work, electrons form a weak attraction force. However, these weak repulsion and attraction forces are negligible.

The wave energy(depression wave) of the positive energy field and the vibration energy of the electrons exist in entirely different conditions. In other words, the wave energy of the positive energy field exists in the spatialization state and space conserves the wave energy. However, the vibration energy of electrons is conserved by being controlled within the electrons and the shape of the electron is maintained due to the role of vibration energy. Therefore, an electron with autonomous vibration can have an independent position in its motion. The motion of an electron refers to the displacement of vibration energy.[7]
<http://batangs9.com/E-7.pdf>

In the course of the motion of an electron, the wave energy(depression wave) of the positive electric field and the vibration energy of electrons are at work. Here, the original value of the vibration energy of an electron is conserved and the wave energy of the positive electric field is inversely proportional to the square($\frac{1}{r^2}$) of the distance. Therefore, assuming that Es is the expansion energy of an electron and Wc is the wave energy of the positive energy field, the quantity of motion of an electron can be expressed as $Es \times Wc \frac{1}{r^2}$.[1] <http://batangs9.com/E-1.pdf>

4. The Principles in the Occurrence
of Repulsive Magnetic Force.

Interactions between two electrons are expressed in a repulsive motion. Interactions between two protons are also expressed in repulsive motion. The process where the repulsive magnetic force is expressed, can be understood clearly through the situation diagram in Figure 6.

E_{P1} in Figure 6 (A) refers to the left electron with autonomous vibration, E_W refers to the wave energy of the negative electric field produced from the left electron, h_u is the protrusion wave of the negative electric field, E_{P2} is the right electron with autonomous vibration, O is the central axis of the electron, a is the contracted state of an electron, and b is the expanded state of an electron. c in Figure 6 (B) refers to the contracted state of an electron, O_2 is the central axis of the electron, and ℓ is the displacement of the electron.
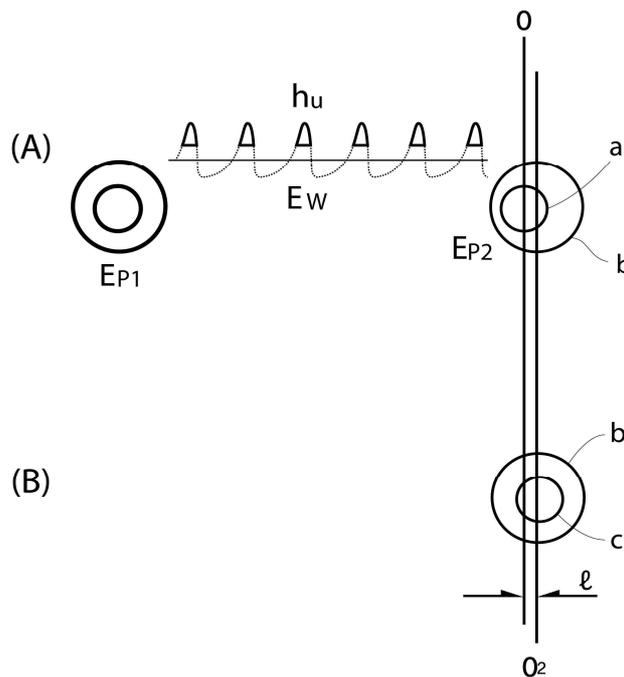
Figure 6. A situation diagram where the protrusion wave of the negative electric field and the expansion energy of an electron are at work

As shown in Figure 6 (A), when the protrusion wave of a negative electric field produced from E_{P1}, acts on the expansion energy of E_{P2}, the protrusion wave of the negative electric field excludes and eliminates the expansion energy of an electron. As a result, b, an electron that finished the expansion would move at a distance ℓ to the right. In other words, the high pressure of the protrusion wave is converted to the motion of the right electron. Here, the impact of the motion of the right electron(E_{P2}) proceeds in a similar way as shown in the situation diagram at Figure 5, and has the same physical meaning.

In the process where the electric force of electrons and protons interact with each other, the movement of electrons and protons are done individually. For example, a causal function of an effect of motion is formed within an electron and a proton and the circumstances at the interior of the electron and proton determine the speed of motion. This logic signifies that the movement of electrons and protons are not expressed in one system.

However, Einstein's special theory of relativity argued that the functions of electrons and protons are connected to each other and are expressed in one system. Therefore, the subject of motion could not be determined from the viewpoint of the special theory of relativity. This logical fallacy in the special theory of relativity is discussed in further detail in a thesis introduced earlier called "Flaws in Newton's Mechanics and Distorted Concepts Adopted by Modern Physics".[1]
   <http://batangs9.com/E-1.pdf>

Ⅲ. Conclusion

All elementary particles repeat their autonomous vibration of contraction and expansion indefinitely. Elementary particles with autonomous vibration can simultaneously have a function to produce and react to an energy field. Therefore, in the process of Fundamental interactions between elementary particles, the roles of medium such as Gluon, Gauge Boson and gravity are

unnecessary.

In the Fundamental interaction between elementary particles, the vibration energy of elementary particles and the wave energy of the electric field are at work. Moreover, an elementary particle with autonomous vibration will have an independent position in its motion. These motions of elementary particles are progressed independently through the biased concentration of autonomous vibration.

The Fundamental interactions of the electric force take place inside elementary particles in motion. In other words, the vibration energy which work progressively within the elementary particles in motion has a biased concentration. The biased concentration is expressed in the motion of the particles. These particles are not supplied with other external energy while in motion.

The electric field in space is composed of the waves of the Batangs, and the waves of the electric field provide the elementary particles which autonomously vibrates, a condition to be in motion autonomously. In the process of motion of the electric force, the energy field of elementary particles in autonomous vibration works on a large area. This means that the relationship between two elementary particles which interact with each other, is only connected through energy fields.

When elementary particles in autonomous vibration and the energy field of Spatialization(spatialisation) are at work, the relative structure between elementary particles do not hold any physical meaning. In other words, the process of interaction of electric force does not need to take the situation of other elementary particles into account. In this perspective, the quantum mechanics in modern physics and the theory of relativity must be discarded as soon as possible.

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   * Difference becomes specialty, Ideal becomes reality,
            at the center of world in the name of center

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