

The Active Functions of Elementary Particles and the Principle of Motion(13)

- The inertial motion of an elementary particle is created by the biased action of inertia. -

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Abstract

1. All objects are composed of elementary particles which has the smallest object unit(particulate). Therefore, the process and the principle by which an object moves should be understood from the viewpoint of elementary particles by applying their characteristics. In addition, elementary particles produce various kinds of energy fields(gravitational field, electric field, and nuclear field) simultaneously, and react to various fields with kinetic effects. As a result, it can be assumed that active energy exists inside elementary particles.

2. All elementary particles permanently continue their autonomous vibration of contraction and expansion, and the reaction of the vibrational energy is expressed as the inertia of resistance function. Also, when elementary particles of autonomous vibration produce kinetic energy(v), the vibrational energy(inertial force) and external kinetic energy are synthesized as a single vector, and the system of the autonomous vibration is tendentiously transformed. The external kinetic energy is permanently conserved through the biased transformation of the autonomous vibration.

3. Elementary particles which maintain their autonomous vibration of biased transformation are autonomously displaced, and their autonomous displacement is expressed as the inertial motion of uniform velocity. This inertial motion of elementary particles is the biased action of the inertial

force. Therefore, the momentum of elementary particles is proportional to the inertial force and the kinetic velocity(v).

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I . Introduction

Like what Bradley's aberration of light says, the outer space typically(in control) conserves the path and the propagation velocity of light waves. Under this condition, only one absolute coordinate system is set, and the propagation velocity of light waves must be expressed as an absolute value. In addition, the medium of light waves can be introduced in an advantageous position. In other words, there is no way to deny the existence of the medium.^[6] <<http://batangs9.com/E-6.pdf>>

In classical physics, the medium of light waves is called "ether" but in this paper, it will be called "Batangs" to distinguish it from ether in classical physics. The reason why they are distinguished from each other is that their characteristics are totally different.

Like the contents of the thesis introduced earlier, "The components of the outer space and the conditions for the existence of light waves", the domain of the earth surface(surroundings of the earth) has a distribution

structure of batangs. However, batangs on the earth surface are influenced by the gravity factor(graviton), and form a space system of an independent system. The independent space system of the gravitational field revolves with the earth. Therefore, the inner gravitational field of the earth surface is not affected by the orbital motion.^[6]

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

All elementary particles on the earth produces a gravity factor in an object unit. Here, the gravity factor has a spatial volume, and is propagated by the elasticity of light velocity. Therefore, the path of the trajectory propagated by the gravity factor is pushed out as much as the volume of the gravity factor. Also, in regions where the individual distribution density of the gravity factor is high, the independent space system of the earth's gravitational field is formed.

However, in regions where the individual distribution density of the gravity factor is low, only the free fall of an object(elementary particle) is expressed, and the independent space system of the gravitational field is not formed. That is, the spatial independence of the gravitational field and the free fall of an object do not have a causal connection. For example, although a satellite is off the independent space system of the earth's gravitational field, it is still under the control of gravity. This is because the gravity factor in an object unit is directly applied(penetrated) to the satellite.

The gravitational field of the earth surface has a spatial independence, and revolves at the speed of 30 Km/sec . Therefore, when light waves of the outer space enter the inner gravitational field of the earth space, the propagation velocity of light waves and the orbital speed of the earth are synthesized as a single vector at the boundary of the gravitational field. The synthesis of the two velocities has a refraction angle like the

aberration of light by Bradley. In other words, Bradley's aberration of light occurs both in the space model of vacuum and the boundary of the gravitational field which has a spatial independence.

The spatial independence of the earth's gravitational field does not have clear boundaries but gradually changes in accordance with the height of the gravitational field. For example, the gravitational field of the earth surface is assumed to have 90% of independence against the outer space. In the interferometer experiment done by Michelson and Morley, only 10 % ($\frac{1}{25}$ of the wavelength displacement) of the expected effect has been detected. Also, in Miller's precise interferometer experiment, the transfer effect ($\frac{1}{30}$ of the wavelength displacement) of the interference fringe was found.^[3] <<http://batangs9.com/E-3.pdf>>

The gravity factor of an object unit is propagated up to the last boundary(end) of the outer space like a neutrino, and penetrates all elementary particles without any resistance. Here, when the gravity factor of an object unit penetrates elementary particles, the spatial background of elementary particles are displaced without resistance as much as the amount of penetration of the gravity factor. Therefore, the inertial force of elementary particles acts tendentiously, and the biased action of the inertial force is expressed as the inertial motion of the free fall.

In the outer space composed of the distribution structure of batangs, solid elementary particles such as firm beads cannot exist because batangs in outer space disturb the motion of elementary particles(solid). Therefore, it is necessary to have anew elementary particle model which can replace the solid type of elementary particles.

All elementary particles permanently maintain their "autonomous

vibration"(self-oscillation) of contraction and expansion. Here, the elementary particles of autonomous vibration move as the replacement effect of a medium by using batangs in outer space as a medium like the propagation process of a surface wave. Therefore, elementary particles of autonomous vibration have a spatial transparency and penetrate the outer space in the form of a phantom. However, the batangs in outer space which always maintain its position and used as a medium of the vibrational energy do not interfere with the motion of elementary particles.

Elementary particles of autonomous vibration do not have independent components and are transferred(delivered) in an independent form like the motion of a bead. Therefore, we have to abandon the perception in general physics which states that elementary particles are composed of firm solids, and are driven passively(heteronomously) by external force.^[7]
<<http://batangs9.com/E-7.pdf>>

In the body of this paper, I will elaborate the conditions in which the inertial force of elementary particles is expressed from the viewpoint of substantive function. I will also explain the principle in which the external kinetic energy is preserved inside elementary particles permanently. Lastly, I will show the process wherein elementary particles of autonomous vibration move as the replacement effect of a medium in an outer space composed of batangs.

II. Body

1. The Structure of Elementary Particles and the Manifestation of Inertial Force

Elementary particles produce various energy fields(nuclear force, electric force, gravity factor) simultaneously, and react to all energy fields with autonomous motion. That is, elementary particles have the function of

producing energy fields and reacting to energy fields. Therefore, it can be assumed that active energy always acts inside elementary particles.^[8]

<http://batangs9.com/E-8.pdf>

As described in the previously introduced thesis, "**The Structure and Active Functions of Elementary Particles**", all elementary particles (protons, neutrons, electrons, etc.) permanently maintain their autonomous vibration of expansion and contraction. That is, the form of elementary particles is kept by the dynamic function of autonomous vibration. However, there are no shells (container) or shields to control the vibrational energy of elementary particles. Therefore, the boundary walls of elementary particles against the outer space do not exist. The volume and the diameter of these elementary particles periodically increase as much as the oscillation frequency.^[7] <http://batangs9.com/E-7.pdf>

Elementary particles of autonomous vibration are either created at the initial sequence or become extinct at the last sequence in outer space. That is, elementary particles of autonomous vibration are directly produced by the transformation of light wave energy, and light wave energy is directly generated in the collapse process of elementary particles. The existence of quarks is not recognized in this elementary particle model of autonomous vibration. For example, in the creation process of a couple of protons, the sequential change of "**light waves → (3 quarks) → protons**" is not made.

Inside the elementary particles, the contraction energy is converted into expansion energy and the expansion energy is changed into contraction energy. In other words, the mutual conversion between contraction energy and expansion energy is infinitely repeated. Here, both energies permanently maintain a perfect equilibrium of the same magnitude. Therefore, the vibrational energy of elementary particles is not lost

consumptively but conserved permanently. ^[7]

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

The effect which permanently conserves the form of elementary particles(system of the autonomous vibration) can be compared in the same context with a superconducting device or the operating principle of perpetual motion. Also, the permanent conservation of the vibrational energy does not violate the "law of the conservation of energy". However, the contraction and expansion energy act in different forms and the type of charge is determined based on the form of the contraction and expansion energy. That is, protons of positive charge and electrons of negative charge continue other models' autonomous vibration and permanently produce a positive electric field and a negative electric field. ^[8]

<http://batangs9.com/E-8.pdf>

Batangs in outer space are used as the medium of all energy(light waves, neutrino, gravity factor, etc.) and the elasticity of batangs acts at the speed of 300,000 Km/sec. Therefore, all energies in outer space are propagated by the elasticity of light velocity. Also, the vibrational energy of elementary particles uses the batangs in outer space as a medium. ^[7]

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

If the vibrational energy of elementary particles uses batangs in outer space as a medium, it would result in reaction to the distribution structure of batangs. Here, the reaction of the vibrational energy is expressed as the "inertial force" of the resistance function. In this process of "inertial force", a reversal object(batangs in outer space) of the vibrational energy is needed, and it is impossible to have an "inertial force" which denies the existence of the reversal object. Therefore, the elementary particle model of autonomous vibration do not recognize the existence of Higgs boson.

As described in the previously introduced thesis, "**The Fictional Recognition of Mass and Inertial Force**", elementary particles of autonomous vibration infinitely produce inertial force of the resistance function and an electric field in the form of waves. Therefore, it can be misunderstood(**delusion**) that components of mass and charge inside elementary particles actually exist. However, mass and charge from the viewpoint of general physics are only fictional components. That is, the only physical component that exists inside elementary particles of autonomous vibration is the batangs in outer space which are used as the medium of vibrational energy.^[11] <<http://batangs9.com/E-11.pdf>>

If all elementary particles are composed of simple solids as recognized in general physics, elementary particles in solid form should additionally have various types of elements(**mass, charge, boson, meson, gauge**). In addition, they simultaneously produce various energy fields and control various types of mediating particles. By using all elementary particles of solid models, it is complicated to explain the process of the operating principle of "**basic interaction**".

The reason why it is possible for the theory of relativity and quantum mechanics to appear in modern physics is that the structure of elementary particles are assumed to be simple solid. In other words, when the existence of autonomous vibration acts in the current process inside elementary particles, various kinds of particles and energy fields are additionally needed.^[1] <<http://batangs9.com/E-1.pdf>>

2. Movement of elementary particles and mathematical expressions

A surface wave is propagated by using water as a medium. Also, the propagation speed of the surface wave is determined by the

elasticity(medium function) of water, and the distribution structure of water typically conserves the propagation speed and path of the surface wave. The propagation process of the surface wave is exposed through the distribution structure of water. Therefore, the propagation speed of the surface water can be expressed as the absolute value of the distribution structure(coordinate) of water.

However, elementary particles of autonomous vibration arbitrarily have the movement speed of v in outer space. This is because the form of the elementary particles is composed of the system of autonomous vibration which is displaced by the replacement effect of the medium. That is, the propagation speed of the vibrational energy acts inside the elementary particles, and cannot be found outside the elementary particles. The propagation speed of the vibrational energy is hidden inside elementary particles, and only the displacement speed made by the replacement effect of the medium is exposed.^[7] <<http://batangs9.com/E-7.pdf>>

The process in which the form of elementary particles is displaced by the replacement effect of the medium can be easily understood through the situation map in Figure 1. In A of Figure 1, P refers to the elementary particles, a is the contractile state of elementary particles, b is the distention state, O is the center line of elementary particles, Eg and Es are the contraction energy and the expansion energy of the light velocity, and F is the external kinetic energy.

The vibrational energy(Eg, Es) of elementary particles and the external kinetic energy(F) have the same kinds of dynamic function and operate in conjunction. In other words, vibrational energy and kinetic energy have functional connectivity. Therefore, the light velocity(or propagation distance) of the vibrational energy and the movement speed of the elementary

particles(P) is synthesized as a single vector, and the system of autonomous vibration can be tendentially transformed.^[2]

<<http://batangs9.com/E-2.pdf>>

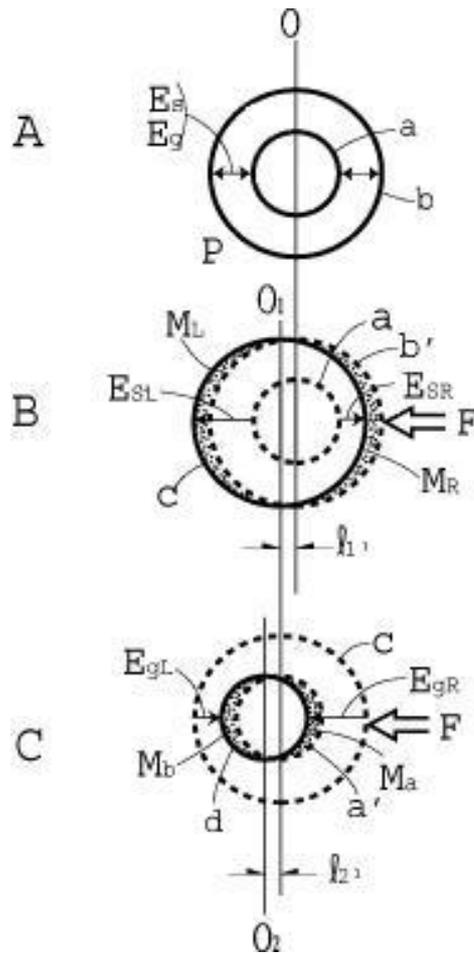


Figure 1. The situation map of the process wherein the elementary particles are displaced by the replacement effect of the medium.

B in Figure 1 refers to the expansion process of elementary particles. Like B in Figure 1, when the general kinetic energy of F is produced on the elementary particles(P) of autonomous vibration, the light velocity of the expansion energy(E_s) would gain additional help as much as the kinetic energy of F . As a result, the absolute value(E_{sL}) of the expansion energy on the left and the absolute value(E_{sR}) of the

expansion energy on the right can be expressed in the following equation.

$$\begin{aligned}
 E_s L &= E_s + F \\
 E_s R &= -E_s + F \\
 |E_s L| &\geq |E_s R| \quad \dots\dots\dots (1)
 \end{aligned}$$

In the inner part of elementary particles in motion, the absolute value ($E_s L$) of the expansion energy on the left increases, while that ($E_s R$) on the right decreases. That is, the action of the expansion energy (E_s) is concentrated on the left direction. Also, in the expansion process of elementary particles, batangs in outer space are used in elementary particles as much as the area of M_L , and batangs of elementary particles stay in outer space as much as the area of M_R . Therefore, the center line (O_1) of elementary particles (c) which complete the expansion is displaced (moved) on the left direction as much as the distance of l_1 .

C in Figure 1 refers to the contraction process of elementary particles. Like C in Figure 1, when the kinetic energy of F is produced on elementary particles which begin to contract, the light velocity of the contraction energy (E_g) and the movement speed of elementary particles (P) is synthesized as a single vector. Thus, the absolute value ($E_g L$) of the contraction energy on the left and that ($E_g R$) on the right can be expressed in the following equation.

$$\begin{aligned}
 E_g L &= -E_g + F \\
 E_g R &= E_g + F \\
 |E_g L| &\geq |E_g R| \quad \dots\dots\dots (2)
 \end{aligned}$$

Like the equation in (2), the absolute value of the contraction energy ($E_g L$) on the left decreases in the inner part of elementary particles in motion, and that ($E_g R$) on the right increases. In other words, the action of the contraction energy (E_g) is concentrated on the left direction. In the

contraction process of elementary particles, batangs in outer space are used as much as the area of M_b and batangs of elementary particles remain(release) as much as the area of M_a . Therefore, the center line(O_2) of the elementary particles(d) which complete the contraction is displaced(moved) on the left direction as much as the distance of l_2 .

The composite, $Es + F$, which the vibrational energy of elementary particles in motion have, can be replaced with the summed velocity of $C + V$. However, if the vibrational energy of the moving elementary particles acts(propagates) on the outer space, the summed velocity of $C + V$ is reverted to the general light velocity of C' . Here, the effect in which one is reduced to the general light velocity has a modulation process of $C + V \rightarrow C'$. Also, this process can be completed as the normal "light velocity equation" of $C^2 + V^2 = C'^2$ through the equation of $C + V = C'$.

In the "light velocity equation" which has a structure of $C^2 + V^2 = C'^2$, the elements of C'^2 implicitly embrace both velocities of C^2 and V^2 . In addition, if we arrange the occupancy of V^2 with respect to the elements of C'^2 , the ratio $\frac{1}{\sqrt{1 - \frac{V^2}{C^2}}}$ can be derived. This ratio is called the

"Lorentz transformation" in Einstein's theory of special relativity, and is called as "Absolute batang factor" in my absolute theory.

"Lorentz Transformation" in the theory of special relativity and "Absolute batang factor" in the absolute theory consist of the same form. Also, their mathematical bases share a common feature which starts with the summed velocity of $C + V$. However, their derivation processes are totally different and have different physical meanings. The derivation process of "Absolute batang factor" in the absolute theory is specifically

explained in the previously introduced thesis, "The fictional coordinate concept in the theory of special relativity and the search for alternatives".^[2] <<http://batangs9.com/E-2.pdf>>

3. Conservation of Kinetic Energy and Inertial Motion

If the kinetic energy of F is generated on the elementary particles of autonomous vibration, the action of the vibrational energy is tendentially concentrated. Also, after its biased concentration, the autonomous vibration of the biased transformation is permanently maintained. Here, elementary particles which maintain their autonomous vibration in the biased transformation permanently conserve the kinetic energy of F . That is, the autonomous vibration of the biased transformation is the means for conserving the external kinetic energy.

If elementary particles maintain their autonomous vibration of the biased transformation, the volume of elementary particles is expanded more on the left direction during the expansion process, and is reduced more on the left direction during the contraction process. Therefore, the phase space of elementary particles is displaced tendentially, and the biased displacement of elementary particles is expressed as the autonomous inertial motion at constant velocity. This inertial motion is continued permanently up to the last boundary of outer space.

The autonomous vibration of elementary particles which conserve the kinetic energy is tendentially concentrated, and elementary particles which maintain their autonomous vibration of the biased transformation is autonomically(actively) displaced. Also, the kinetic effect of the basic interaction of elementary particles is done voluntarily by the autonomous vibration of the biased transformation. In other words, elementary particles of autonomous vibration do not move heteronomously(passively) due to external force. Therefore, the basic concept in the theory of

relativity and quantum mechanics which contain passive motion should be abolished.^[7] <<http://batangs9.com/E-7.pdf>>

In the course of the inertial motion of elementary particles, the transmission speed(propagation distance) of the vibrational energy tendentiously increases. However, batangs in outer space which are used as the medium of vibrational energy is replaced in the opposite direction. Therefore, the propagation distance of the vibrational energy should have the same magnitude in all directions. That is, the external distribution range(volume) of the vibrational energy maintain its original form.

The momentum of elementary particles is proportional to the size of the vibrational energy and the biased transformation ratio(movement speed of v) of the vibrational energy. In addition, the size of the vibrational energy is expressed as the inertial force. Thus, if the momentum of elementary particles is assumed to be P , the inertial force is F_i , and the constant movement speed is v , the momentum of elementary particles should be expressed in the form of $P = F_i \times v$. However, in general physics, the inertial force of F_i is replaced with the mass of m , and the momentum of elementary particles is expressed as $P = m \times v$.

Elementary particles with inertial force(vibrational energy) can conserve kinetic energy and do permanent inertial motion at a constant velocity. However, an object without inertial force cannot conserve kinetic energy, and proceed with the inertial motion at constant velocity. For example, a light rubber balloon does not have inertial force. Therefore, as long as the kinetic energy is provided on the rubber balloon, it moves at a constant velocity, and once the kinetic energy is removed, it would stop.

When elementary particles of autonomous vibration are displaced by the replacement effect of the medium, the system of autonomous vibration is

only tendentially transformed, and the mechanical magnitude of the vibrational energy does not change. That is, the external kinetic energy is not converted into the vibrational energy of elementary particles, and maintains its original function and state.^[11] <<http://batangs9.com/E-11.pdf>>

However, if elementary particles of autonomous vibration absorbs light wave energy, only the mechanical magnitude of the vibrational energy is changed, and the action of the autonomous vibration is not tendentially concentrated. In other words, the light wave energy is converted into the vibrational energy of elementary particles, and does not influence the change of the form of autonomous vibration.

In the process wherein elementary particles of autonomous vibration are displaced with the replacement effect of the medium, the role of the vibrational energy is controlled by the limit value of the light velocity. As a result, inertial force which is expressed by the role of vibrational energy has low efficiency. For example, elementary particles of light velocity do not have inertial force and do not react to external kinetic energy. It might be misinterpreted that the mass of the material element increases as claimed in the equivalence principle.^[11]

<<http://batangs9.com/E-11.pdf>>

The form of elementary particles permanently maintains its autonomous vibration of contraction and expansion, and is displaced by the replacement effect of the medium. Therefore, in the course of the autonomous inertial motion of elementary particles, the rapid and slow advance are periodically repeated as much as the frequency. That is, the autonomous inertial motion of elementary particles does not have a uniform constant velocity.

III. Conclusion

All kinds of elementary particles permanently maintain their autonomous vibration of contraction and expansion. Also, when the external kinetic energy(v) is provided to elementary particles of autonomous vibration, the vibrational energy(inertial force) of elementary particles and the external kinetic energy are synthesized as a single vector, and the system of autonomous vibration is tendentiously transformed. Through this, the external kinetic energy is conserved permanently.

When elementary particles permanently maintain their autonomous vibration of the biased transformation, they are displaced autonomously by the biased replacement effect of the medium. Here, the autonomous displacement of elementary particles mean the inertial motion at constant velocity. Also, the autonomous inertial motion of elementary particles continues permanently until the last boundary of the outer space.

Elementary particles of autonomous vibration like the propagation process of surface waves are displaced by the replacement effect of the medium through the use of batangs in outer space as the medium. Thus, elementary particles of autonomous vibration have spatial transparency, and penetrate space like a phantom. Here, batangs in outer space always maintain their position and do not interfere with the motion of elementary particles.

IV. References of the Cyber site

- [1] young sik, kim. <Flaws of Newton's Mechanics and Distorted Concepts Adopted by Modern Physics>. 2016. (<http://batangs9.com/E-1.pdf>)
- [2] young sik, kim. <The Defect in the Special Theory of Relativity and the Formulation of the Absoluteness Theory>. 2016. (<http://batangs9.com/E-2.pdf>)
- [3] young sik, kim. <Spatial Independence of the Earth's Gravitational Field and Fabrication of the Law of the Constant Speed of Light>. 2016.

(<http://batangs9.com/E-3.pdf>)

- [4] young sik, kim. <The Fictional Coordinate Concept in the Special Theory of Relativity and the Search for Another Alternative>. 2016. (<http://batangs9.com/E-4.pdf>)
- [5] young sik, kim. <The Necessity of the Absolute Coordinate System and the Verification Method>. 2016. (<http://batangs9.com/E-5.pdf>)
- [6] young sik, kim. <Elements in Space and the Condition for the Existence of Light Waves>. 2016. (<http://batangs9.com/E-6.pdf>)
- [7] young sik, kim. <The Structure and Active Functions of Elementary Particles>. 2016. (<http://batangs9.com/E-7.pdf>)
- [8] young sik, kim. <Interaction between the Active Functions and Electric Forces of Elementary Particles>. 2016. (<http://batangs9.com/E-8.pdf>)
- [9] young sik, kim. <The formation of atomic structure and mathematical expression>. 2016. (<http://batangs9.com/E-9.pdf>)
- [10] young sik, kim. <Active functions of elementary particles and interactions of nuclear force>. 2017. (<http://batangs9.com/E-10.pdf>)
- [11] young sik, kim. <Fictional Perception of Mass and Inertial Force>. 2017. (<http://batangs9.com/E-11.pdf>)
- [12] young sik, kim. <The Deficiency in the Principle of Equivalence and the Need for Alternatives>. 2017. (<http://batangs9.com/E-12.pdf>)

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

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