

Fictional Perception of Mass and Inertial Force⁽¹¹⁾

- For a rational understanding of mass and inertial force -

Young sik, Kim *

Abstract

1. In general physics, it is recognized that all elementary particles are composed of solids, and that solid elementary particles have a separate mass. However, all elementary particles retain their autonomous vibration of contraction and expansion permanently. Also, the framework of the particle model is maintained permanently due to the autonomous vibration of the particles. Elementary particles of such autonomous vibration are not composed of solids and do not have a separate mass. Thus, mass is a fictional and hypothetical component.

2. The vibrational energy of elementary particles generate a reaction to outer space, and the reaction of the vibrational energy is expressed as the inertial force of resistive functions. The inertial force of elementary particles is proportional to the magnitude of the vibrational energy, and the vibrational energy must be effective through the current process. In addition, when the action of the vibrational energy(inertial force) within the elementary particle is lopsidedly concentrated, the inertial motion of uniform velocity takes place voluntarily. Here, the speed of the inertial motion is determined by the synthesis of inertial force and kinetic energy. In the significance of such perspective, the Higgs theory in modern physics must be discarded.

PACS number: 02.30.Em, 04.20.-q, 11.26.Fr, 12.90.+b, 21.10.Dr

Keywords: batangs, elementary particles, Higgs boson, mass, inertia forces.

* **E-mail:** batangs@naver.com

Sequence

I. Introduction

II. Body

1. The structure of elementary particles and the misconceptions on mass
2. The expression and operational principles of inertial force

III. Conclusion

IV. References of the Cyber site

I . Introduction

In general physics, mass is defined as the inherent amount of matter. The existence of mass is indirectly verified up to this day through inertial force. Here, the function of inertial force is precisely measured through various methods. However, the elements of mass have not been specifically analyzed up to the present.

As physics evolved to this day, no active research regarding the elements of mass has taken place, and the identity of mass has been ignored. With only the knowledge of the present, only the proportion between mass and inertial force has been recognized. However, the elements of mass and the function of inertial force exist in completely different forms, and the collaborative working principles of mass and inertial force cannot be interpreted with a clear logic.^[1]

<<http://batangs9.com/E-1.pdf>>

All objects are composed of elementary particles and elementary particles have the final particle model. Additionally, all physical phenomena are expressed by the characteristics of elementary particles. Thus, the characteristics of elementary particles are connected with all physical phenomena through cause and effect. Therefore, the operational principle of all physical phenomena must be interpreted in the perspective of the level(unit) of elementary particles.^[7]

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

However, in Einstein's special theory of relativity and the general theory of relativity, the operational principles of physical phenomena is

interpreted in the perspective of the level of an object. For instance, the concept of mass in the theory of relativity possesses the significance in the level of an object. Here, the concept of mass in the level of an object covers a variety of significance, and it cannot reflect the fine functions and roles of elementary particles. The concept of mass in the theory of relativity originated from Newtonian mechanics of classical physics, where the existence of elementary particles was not recognized. Therefore, the interpretation of the theory of relativity is very straightforward and simple, like the Newtonian mechanics of classical physics.^[1] <<http://batangs9.com/E-1.pdf>>

The Earth's gravitational field is created due to the characteristics of elementary particles, and the characteristics of elementary particles conserve the kinetic energy of gravity separately. Therefore, the operational principle of gravity must be interpreted through a logic that reflects the characteristics of elementary particles in the perspective of the level of an elementary particle. Here, the characteristic of elementary particles has a more fundamental meaning than the concept of mass in the level of an object.

Like the contents of the paper introduced previously - “**The Elements of Outer Space and the Conditions of the Existence of Light Waves**”, all areas of outer space are filled with the medium of light waves. Though the medium of light waves is called ether in classical physics, in this paper, the medium of light waves will be called “**batangs**” for convenience. Additionally, in an outer space composed of “**batangs**”, all elementary particles permanently continue their “**autonomous vibration**” (self-oscillation) of contraction and expansion. Thus, the form of elementary particles are only maintained and conserved through the mechanical functions of “**autonomous vibration**”.^[6]

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

An elementary particle(A) of autonomous vibration simultaneously generates various energy fields(nuclear field, electric field, gravitational field), and the energy field exists as a state of spatialization. Likewise, the energy field of spatialization provides the condition(environment) to move autonomously in relation to elementary particles(B) of other autonomous vibrations. Thus, elementary particles of autonomous vibration simultaneously have the function to produce an energy field and the function to react to an energy field. Therefore, the role of medium, such as gluon, gauge boson, and graviton, is unnecessary in the elementary particle model of autonomous vibration.^[1] <<http://batangs9.com/E-1.pdf>>

The vibrational energy of elementary particles exist by utilizing the batangs in outer space as a medium. Here, the vibrational energy of elementary particles generate a reaction, and the reaction of vibrational energy is expressed through the “inertial force” of resistive functions. The elementary particles of this condition are not composed of solids and do not have a separate “mass”. Thus, “mass”, in the perspective of general physics, is a component of fiction and virtual reality.

The body of this paper analyzes whether elementary particles are composed of hard solids and whether elementary particles have a mass of physical element in the perspective of substantive functions. In addition, it will summarize the misconceptions in the past regarding the connection between mass and inertial force, and explain the process of inertial force in the perspective of substantive functions.

II. Body

1. The structure of elementary particles and the misconceptions on mass

In order to derive the Lorentz coordinate transformation equation, Einstein set the two coordinate systems of S and S' at a relative structure. However, the two coordinate systems of S and S' are

hypothetical phases without a basis on the inertial system. This logic implies that the Lorentz coordinate transformation equation was derived in an unconventional way using the two coordinate systems (S, S') of hypothetical phases.

As written in the contents of the “**Components of Outer Space and the Conditions of the Existence of Light Waves**” introduced earlier, all areas in outer space are filled with “**batangs**” (medium of light waves). Here, the batangs in outer space is dispersed in a 3-dimensional form. Therefore, the coordinate axes X, Y, Z can be set in three directions in outer space. Additionally, in order to rationally express the displacement of all physical phenomena, the physical properties of batangs and a 3-dimensional coordinate system is simultaneously needed.^[6]

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

The physical properties of batangs, which is dispersed in all areas of outer space, has the elastic force of the velocity of light. Here, all energy that use the batangs in outer space as a medium is propagated with the elastic force of the velocity of light. Also, the sequential propagation process of the velocity of light is expressed as an effect of time. Therefore, the spatial coordinate axes of X, Y, Z must individually possess the effect of time. For example, time t' takes effect in the X coordinate axis, time t'' takes effect in the Y coordinate axis, and time t''' takes effect in the Z coordinate axis. Of course, time t' , time t'' , and time t''' maintain the same value.

The time of t expressed in outer space is defined as a pure scalar quantity. Here, the t of scalar does not have the function of a coordinate axis. Therefore, the time axis of $T(Ct)$ cannot be independently set. The time axis of T set in the special theory of relativity is a hypothetical phase. In the significance of such perspective, the “**4-dimensional time**”

and space model” must be discarded.

The structure of outer space, which simultaneously possess the physical property (elastic force of the velocity of light) of batangs and the 3-dimensional coordinate axes (X, Y, Z), will be called “**3-dimensional complex space model**”, for convenience. The dispersion organization of batangs in this “**3-dimensional complex space model**” is the fundamental basis of the space coordinate axes (X, Y, Z). Additionally, dimensions higher (9-dimensions, 11-dimensions) than 4 dimensions are not allowed in the “**3-dimensional complex space model**”. Therefore, the theory of relativity and the superstring theory must be discarded.^[4]

<<http://batangs9.com/E-4.pdf>>

The system of autonomous vibration, which composes the form of elementary particles in the “**3-dimensional complex space model**” uses the batangs in outer space as a medium and moves through the replacement effect of media. Therefore, the speed of the movement of elementary particles is controlled through the marginal rate of the velocity of light. Such control effects of the velocity of light are precisely expressed up to this day through the Lorentz coordinate transformation equation. The reason why the Lorentz coordinate transformation equation has a valid function is because the time axis $T(Ct)$ set in the derivation process of the Lorentz coordination transformation equation symbolically reflects the physical property of batangs (elastic force of the velocity of light).

In the Quark theory of modern physics, it has been perceived that quark is composed of a hard solid and that solid quark possesses the final particle model. If protons are composed of 3 quarks (u, p, d), like the argument of the quark theory, the formation process of the proton must undergo a sequential transformation stage of “**light wave** → **(3 quarks)** → **proton**”. Also, the extinction process of proton must undergo the

sequential transformation stages of “proton → (3 quarks) → light wave”.

However, 3 quarks do not simultaneously emerge in the formation process or extinction process of a proton. Thus, the particle model of the proton is created first, or it disappears according to the final sequence. In addition, quark theory is simply used limitedly in the process of explaining the structure of a proton, and is not expanded to other fields. Therefore, the quark theory must be discarded.^[7]

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

In order for all elementary particles to maintain and conserve the system of particle model, it must have its inherent concentrating functions. In addition, the concentrating functions of elementary particles must take effect through the current process. This logic signifies that the energy of the concentrating functions is taking effect as an ongoing process within the interior of elementary particles.

In an outer space composed of batangs, the light wave energy with the velocity of light which received impact can be converted into vibrational energy in a stationary state. This stationary vibrational energy indefinitely continues its “**autonomous vibration**” of contraction and expansion. As such, due to the effect of indefinitely continuing “**autonomous vibration**”, the first elementary particle is creatively formed. Additionally, the form of the elementary particle is maintained and conserved only through the functions of “**autonomous vibration**”. However, in case the form of the elementary particle breaks down, the vibrational energy of the elementary particle is released as a light wave energy with the velocity of light.^[7]

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

The expansion energy of elementary particles create a reaction to the outer space, and the reaction of the expansion energy is converted to a

contraction energy in the opposite direction. In addition, the reaction of the contraction energy is converted to expansion energy in the opposite direction. Therefore, the contraction energy and the expansion energy of an elementary particle can permanently maintain an equilibrium of equal size, and they are not expendably lost. This effect does not go against the law of conservation of energy, such as the superconductivity phenomenon in the operational principles of perpetual motion machines.

When the elementary particle of autonomous vibration is in motion, the functions of vibrational energy are lopsidedly concentrated, and the autonomous vibration of the deformed structure is permanently continued. As such, due to the lopsidedly concentrating effects of the function of vibrational energy, kinetic energy can be stored. The elementary particle that preserves and stores kinetic energy here moves at a uniform velocity up to the final boundary of the universe.

An elementary particle that continues an autonomous vibration of deformed structure is autonomously displaced due to the replacement effect of the medium. This autonomous displacement of elementary particles signify the inertial motion of uniform velocity. Therefore, in the process where elementary particles of autonomous vibration are in motion, batangs in outer space(used as a medium of vibrational energy) must be replaced as much as the distance of motion. Thus, elementary particles are not transferred in the transportation form similar to a baseball.^[7]

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

The vibrational energy of an elementary particle takes effect as an ongoing process using the batangs in outer space as medium. Therefore, batangs in outer space is the only physical element that exist in the interior of elementary particles. Elementary particles with this condition are not composed of solids, and do not have “**mass**”, as a physical

element. Thus, the physical element “mass”, does not exist.

Elementary particles of autonomous vibration permanently create an inertial force of resistive functions and an electric field at a wave status. Therefore, it can be misunderstood as a mass component and electric charge component existing within the interior of elementary particles. However, the mass component and the electric charge component are inferentially assumed in order to conveniently resolve the expression of inertial force and the expression of the electric field. Thus, mass and electric charge recognized in the perspective of general physics is a fictional and hypothetical component.^[8] <<http://batangs9.com/E-8.pdf>>

2. The expression and operational principles of inertial force

General physics introduced a fictional function – inertial force, in order to treat an accelerated object like a stationary object. Here, inertial force is not recognized as a real mechanical energy(force). Additionally, mass was used as a substitute of inertial force by assuming that the mass of an object creates inertial force. In this process of utilizing mass, the function of inertial force is indirectly included.

However, the substantive elements of mass and the function of inertial forces exist in completely different forms. Mass and inertial force of such conditions cannot be interconnected. In addition, general physics does not clearly explain the collaborative operational principles of mass and inertial forces. Therefore, the existing perceptions on mass and inertial force must be reviewed. In order to rationally resolve the complex relationship between mass and inertial force, mass and inertial force must be separated and treated independently.

For a convenient understanding of inertial force, modern physics

introduced the Higgs theory. In the Higgs theory, both sides of elementary particles and Higgs must additionally possess a separate energy. In cases wherein elementary particles and Higgs do not have a separate energy, the interaction between elementary particles and Higgs cannot be expressed. The Higgs theory, which requires an additional intervention of energy, as aforementioned, does not do any help in the fundamental understanding of inertial force.

The kinetic process of an object certainly needs mechanical energy, and mechanical energy must take place as an ongoing process. Thus, only mechanical energy working as an ongoing process can be converted into the kinetic effect of an object. Therefore, the motion of an object signifies that mechanical energy is taking place as an ongoing process within the interior of the object in motion.

The inertial force of an object resists mechanically against external kinetic energy(Force). Thus, inertial force and an external kinetic energy have mutual continuity. Therefore, inertial force must be composed of real mechanical energy, just like kinetic energy. For example, when an elementary particle has inertial force, it can be assumed that mechanical energy exists in the interior of the elementary particle.

The researcher's argument that mechanical energy takes place in the current process within the elementary particle is probably difficult to understand(accept) in the perspective of general physics. This is because general physics selected the solid elementary particle model, and the solid elementary particle model has an inactive structure. Therefore, in order to rationally understand the process of inertial force, a new elementary particle model that can replace the solid elementary particle model must be introduced.

As in the article “**The Structure and Active Functions of an Elementary Particle**” introduced prior to this paper, all types of elementary particles permanently continue their “**autonomous vibration**” of contraction and expansion. Thus, vibrational energy takes effect as an ongoing process within the interior of the elementary particle. As such, the vibrational energy of an elementary particle, which takes effect as an ongoing process, can be misunderstood as an effect of the superstring, claimed in the superstring theory of modern physics.^[7]

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

The autonomous vibration of elementary particles has its own activation function, and the activation function of autonomous vibration permanently produces a nuclear field, electric field and gravitational field. However, to this day, the existence of autonomous vibration which truly exists in the interior of the elementary particle, is not recognized. Therefore, in the process of interpreting the basic interactions of elementary particles, the activation function of autonomous vibration was not used.

In the general theory of relativity, the operational principle of gravity was interpreted through the concept of mass in the level of an object, like classical Newtonian physics. This concept of mass in the level of an object cannot reflect the minute functions in the level of elementary particles; and thus, has logical limitations. However, in the “**Absolute Theory**” of the researcher, which claims the elementary particle model of autonomous vibration, the operational principle of all physical phenomena is interpreted in the perspective of the level of elementary particles. For example, the inertial force of an elementary principle is expressed through the activation function of autonomous vibration.^[1]

<<http://batangs9.com/E-1.pdf>>

The vibrational energy of an elementary particle exists by using the batangs in outer space as a medium, and takes effect through the elastic

force of the velocity of light. Here, the batangs in outer space, which is used as the medium of vibrational energy, has a forceful compression effect. This forceful compression effect of the vibrational energy produces a disruptive resistance, and the disruptive resistance is converted to a reaction in the opposite direction. For instance, the reaction of expansion energy is converted to contraction energy in the opposite direction, and the reaction of contraction energy is converted to expansion energy in the opposite direction.

The reaction of vibrational energy generated in the interior of elementary particles is expressed through the “**inertial force**” of the resistive functions. Here, the “**inertial force**” reflects the magnitude of the vibrational energy, and the “**inertial force**” is proportional to the magnitude of the vibrational energy. Therefore, the “**inertial force**” of the resistive function cannot be expressed to subjects without the activation energy of autonomous vibration.^[7] <<http://batangs9.com/E-7.pdf>>

When the elementary particle of autonomous vibration is stationary in outer space, the stationary elementary particle has a stationary inertial force. Thus, the vibrational energy of the stationary elementary particle is equally distributed to all three-dimensional directions, and the equal reaction of the vibrational energy is expressed as a stationary inertial force. This stationary elementary particle adheres to its location in place through the inertial force of resistive functions.

Batangs, distributed in all areas of outer space, does not have vibrational energy(**mechanical energy**). Therefore, batangs in outer space cannot produce inertial force of resistive functions. Additionally, batangs in outer space that does not create inertial force are used as a “**nonresistant medium**” to all actions of energy. For instance, neutrino – a light wave energy that uses the batangs in outer space as a medium, is

propagated for tens of billions of years without resistance up to distances of tens of millions of light years.

The batangs in outer space and the vibrational energy of elementary particles do not have a causal relationship. Therefore, the batangs in outer space and the vibrational energy(**inertial force**) of elementary particles must be separated and treated independently. However, in the process where the vibrational energy of the elementary particle uses the batangs in outer space as a medium, the relationship between the batangs and vibrational energy is mutually dependent.^[6]

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

In cases wherein an external kinetic energy is provided for a stationary elementary particle, the distribution structure of the vibrational energy is lopsidedly concentrated, and the autonomous vibration of the deformed structure is permanently sustained. Here, the effective distance of the vibrational energy expands forward, and contracts in the backward direction. Therefore, the batangs of elementary particles used as a medium for vibrational energy is replaced by the batangs in outer space while spatial displacement autonomously takes place. As such, spatial displacement that autonomously takes place is expressed as the **“inertial motion”** of an elementary particle.

The **“inertial motion”** of an elementary particle takes effect through the lopsided effect of inertial force. Thus, **“inertial motion”** of uniform velocity is realized due to the lopsided concentration of vibrational energy that produce the inertial force of the elementary particle. Additionally, the velocity of the motion of an elementary particle is determined by the lopsided concentration ratio of vibrational energy. The inertial motion of elementary particles will be explained in detail in the next article(**Title: The Activation Functions of an Elementary Particle and the Principles of**

its Motion).

In Einstein's special theory of relativity, it is recognized that all elementary particles have mass, and that mass creates inertial force. Additionally, it argues that the mass(m) of an elementary particle in motion increases. However, the researcher's absolute theory does not acknowledge the existence of mass, and argues the decrease in the mutual conversion ratio of kinetic energy and kinetic velocity. Thus, the reaction efficiency of inertial force decreases in the motion process of elementary particles.

An external kinetic energy provided to an elementary particle(object) is converted into kinetic effect through the inertial force of an elementary particle. Likewise, when the reaction efficiency of inertial force decreases in the motion process of an elementary particle, the mutual conversion ratio of kinetic energy and kinetic velocity decreases. Here, the argument of the absolute theory that the reaction efficiency of the inertial force will decrease has the same effect with the argument of the special theory of relativity that the mass of the elementary particle in motion will increase. Thus, as a higher ratio of kinetic energy is required in the acceleration process of the elementary particle with increased mass, a higher ratio of kinetic energy is also required in the acceleration process of an elementary particle with decreased inertial force reaction efficiency.

An elementary particle that moves in the speed of light(c) cannot produce an inertial force in the direction of motion. Thus, an elementary particle with the speed of light does not have an inertial force in the direction of motion. Likewise, an elementary particle with the speed of light that does not have an inertial force in the direction of motion is not affected by interference from an external kinetic energy. An elementary particle with the speed of light that is not affected by interference from

an external kinetic energy can be misinterpreted as having infinite mass, as the special theory of relativity claims. ^[2]

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

The elementary particle of autonomous vibration permanently produces a gravity factor(graviton) and the gravity factor is composed of individual units, like photon(light wave). Here, the gravity factor with individual units can pass through an elementary particle of autonomous vibration without resistance. Also, when the gravity factor passes through an elementary particle, the spatial background of the elementary particle displaces as much as the amount penetrated by the gravity factor, and the inertial force of the elementary particle takes action lopsidedly. Such lopsided effect of inertial force is expressed through the free fall of gravity.

The free fall of gravity is composed of the autonomous inertial motion of elementary particles. Here, the inertial motion of elementary particles and the free fall of gravity have the same value. The argument of this logic can be conveniently understood through the effect wherein the inertial mass and the gravitational mass of an elementary particle is measured to have equal magnitude. The free fall of gravity will be explained in detail through the next article(Title: The Activation Function of Elementary Particle and the Interaction of Gravity).

In Einstein's special theory of relativity, mass and energy are assumed to have equivalent values, and the "principle of equivalence" ($E = mc^2$) is claimed. For instance, kinetic energy can be converted into mass, and the mass of an object in motion must increase. Therefore, after the mass of an object in motion increases, the effect of the kinetic energy disappears, and it can be predicted that the initial constant velocity will not be maintained. However, the constant velocity of a real object in motion is continuously maintained. Here, the fact that the constant velocity of an

object in motion is maintained implies that kinetic energy does not convert into mass.

In the expression process of momentum($P = m \times v$), there is a need for a separate role of mass(m) and of kinetic energy(v). The relationship between mass and kinetic energy is mutually dependent. Therefore, mass and kinetic energy must be separated and dealt with individually.

The principle of equivalence in the special theory of relativity misinterprets the unknown effect as an increase in mass. For instance, the inertial force of an object in motion has a low reaction efficiency, and the low reaction efficiency of the inertial force can be misinterpreted as an increase in mass. In the significance of this perspective, the principle of equivalence in the special theory of relativity must be discarded.

III. Conclusion

All elementary particles permanently continue their autonomous vibration of contraction and expansion, and the system of the particle model is indefinitely maintained through the role of vibrational energy. Here, elementary particles of autonomous vibration are composed of hard solids like sand, and do not have a mass of material element. Thus, mass recognized in the perspective of general physics is a fictional and hypothetical component that does not exist.

In the process where the autonomous vibration of elementary particles is sustained, the reaction to the expansion energy and the reaction to the contraction energy is produced. Here, the reaction to the vibrational energy is expressed through the inertial force of the resistive functions. This inertial force of elementary particles reflect the magnitude of vibrational energy. Additionally, if the distribution structure of vibrational energy is lopsidedly concentrated, the inertial motion with uniform

velocity progresses permanently.

In Einstein's special theory of relativity, the operational principle of gravity is interpreted as a concept of mass in the material level. However, all objects are composed of elementary particles, and elementary particles have the final particle model. Likewise, gravity is expressed through the role of elementary particles and elementary particles provide the causal function of gravity. Therefore, the operational principle of gravity must be interpreted using a logic that applies the function of elementary particles, in the perspective of an elementary particle-level.

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>)

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

2017. 2. 15