PRINCIPLES OF THE INTERACTION OF
TIME AND SPACE

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Abstract

Time-space of opposing properties interact to create everything.

Proposition 1: Energy is the combination of time-space.

Proposition 2: Time is positive $(+)$, space is negative $(-)$.

1. Time has dynamic divergence property (positive) and space has static convergence property (negative). These are unique properties of time-space. Main phenomena of convergence are gravity and particles, and anti-gravity and waves are the divergence phenomena.

2. Mutual combination of time and space which are opposite elements, and the mutual exclusion of time-time, space-space which are the same elements are their interrelationship properties. Main combining phenomena are energy formation, movement, electromagnetic attraction, and exclusion phenomena are time delay, length contraction, electromagnetic repulsion.

3. Unique and interrelationship properties coexist or combine with opposite properties, but offset each other. Gravity and anti-gravity coexist, and positive and negative charges are combined, but they all offset and balance each other.

4. Cosmos formation process is Chaos → time-space → light and darkness → basic particles → atoms and molecules → stars and galaxies.

5. Everything is time-space. Energy (mass, charge), movement, and field (gravity field, electromagnetic field, quantum field) are all time-space.

1. Introduction

This article described the principles of the birth and end of the cosmos, the creation and movement of all things as the interaction of causative time-space.

2. Chaos

Chaos is a world of soul that exists on its own, a world where time-space do not exist, the source of life, the origin of the cosmos, and coexistence with the cosmos. Chaos is the internal world and the cosmos is the external world.

3. Time-space

Time-space come from chaos. Time has unstoppable dynamism and divergence properties toward the future, namely positive (+). Space is static and convergent, namely negative (−). Space can not transform itself, it can only change over time. Time is the source of movement and

divergence. Space is the source of form and convergence. The characteristic of convergence is point convergence, and the characteristic of divergence is all directional divergence.

Time-space cannot exist alone and always coexist. They always have the homeostasis to preserve themselves. Homeostasis inevitably inhibits the opponent. Convergence inhibits divergence, and divergence inhibits convergence. They combine for coexistence on the one hand, but offset each other for homeostasis on the other. That is, they have complementarity. If there is no offset, the universe will either converge infinitely and suffocate, or it will diverge infinitely and have no form. That is, the cosmos will not be established.

1. Interaction

1) Mutual combination

(1) Energy (mass) formation

Energy (mass) is the combination of time-space. Namely, $E =$ time-space, or $E = (t, s)$. The expression in the form of a velocity field is $E = \dfrac{\Delta S}{\Delta T}$ ($E =$ energy-mass, $S = 3$ dimensional space, $T =$ time), where ΔS is the convergence amount by $S_0 \rightarrow S_1$, and ΔT is the divergence amount by $t_0 \rightarrow t_1$. Chemical representation is $E = T + S$.

*Definition of mass, particle and wave. Mass is the convergence density of time-space, particles are the convergence forms of time-space. Therefore photons must also have mass. Particles with a mass of 0 cannot exist because a mass is time-space (convergence density). Waves are the divergence forms of time-space. The waves do not have mass, but when they converge, namely, they are converted into particles or trapped in particles, they form mass.

In relative mass formula

$$m = \frac{m_0}{\sqrt{1 - \dfrac{v^2}{c^2}}} \ . \ [1]$$

The increased mass $(m - m_0)$ is produced by the velocity, namely, time-space. Therefore, m = time-space.

Lagrangian $(L = T - V)$ [1] is a function of generalized coordinates and generalized velocity. This means that velocity (time-space) generates new energy $L \ (T - V)$. Therefore, the essence of Lagrangian is E = time-space.

These equations cannot be established if energy-mass is not time-space.

(2) The free movement of all things

Everything moves for itself. The cause is the time-space combination. All objects are made up of unique time-space. Objects cannot be stopped for a moment due to the dynamic divergence property of unique time, but the aid of common time-space is essential for objects to move.

An object's unique space is x, and its unique time is t, common time is T and common space is X.

X is combined with t, and T is combined with x. As a result, objects gain velocity (travel time and distance) and move. Quantum move as waves due to the dynamic divergence properties and stop as particles due to the static convergence properties.

(3) Electromagnetic attraction

Electromagnetic attraction comes from the combination properties of time-space.

2) Mutual exclusion

(1) Unique object formation

Unique time-space curvature is greater than the common time-space curvature. Therefore, they form a boundary between them, exclude each other, and form a unique object.

(2) Time expansion and space contraction

$$t = \frac{t_0}{\sqrt{1 - \dfrac{v^2}{c^2}}} . \ [1]$$

Common time (dt) and unique time (t_0) are mutually excluded. Where common time is not affected, but unique time is disturbed by the exclusion of common time, and the flow is delayed.

$$l = l_0 \sqrt{1 - \frac{v^2}{c^2}} . \ [1]$$

Common space (dx) and unique space (l_0) are mutually excluded. Where common space is not affected, but the progress of the unique space is disturbed by the exclusion of common space. Therefore, the length of the direction of progress is contracted.

(3) Electromagnetic repulsion

Electromagnetic repulsion comes from the exclusion properties of time-time and space-space.

2. Basic actions

The basic actions of nature are unique action and interaction.

Unique action originates from the unique properties of time-space, and interaction originates from the interrelationship properties of time-space. Convergence properties, which are unique properties of space, give rise to gravity, and divergence properties, which are unique properties of time, give rise to anti-gravity. They act at right angles to each other to

offset their opponents. (See Section 7 - 3).

Time-space interactions are combination and exclusion. Time-space with opposite properties are mutually combined. On the other hand, common time and unique time, common space and unique space have the same properties and thus are mutually excluded. Electromagnetic action originates from the interrelationship properties of time-space, namely, the properties of combination and exclusion.

Convergence-divergence and combination-exclusion are complementary and becomes the basic actions of the cosmos. Just as time-space are inseparable, gravity and anti-gravity are inseparable. All shell forms, namely, nucleus, synthetic particles, atoms, stars, galaxies, and the particle conversion of waves are all made by gravity.

*Definition of gravity. Gravity is the convergence action (the first definition), centripetal force, formation of mass and particle, the one object action, and coexistence with anti-gravity. One object means mass = gravity field (different shapes of the same object, such as the relationship between particles and waves), action means that time-space forms gravitational field and mass.

Gamma rays and X-rays are made by gravity. This is because the gravity of nuclei and atoms compresses light and increases the energy density of light.

Divergence-convergence are everywhere in the cosmos. They are also in the waves and particles and in electromagnetic fields, too. Positive charges and negative charges, electricity and magnetism, electric fields and charges are all the form of divergence-convergence. Magnetic charges are a convergence form. The reason why magnetic monopole does not exist alone and the geomagnetic field surrounds the earth without divergence is due to convergence. Ultimately, they also exist in men and women who are human.

Weak action and strong action have no unique properties. And they have no anti action which offset each other. So they cannot exist. Gravity and anti-gravity have the balance of forces (gravity = anti-gravity). Therefore, the object does not compress or disperse and remains intact. Electrical action has the balance of the number of electron pairs (pair generation, pair annihilation). Therefore, the electrically neutral cosmos can exist. Weak and strong actions do not have this balance either. These can be described by gravity and electrical action. Both gravity and electrical action have an offset, but they never dissipate. It is because there is a safety device. Gravity and anti-gravity act at right angles to each other, and electrical action has insulation so that positive and negative charges are not indiscriminately combined and dissipated.

Since nature's basic actions are the unique action and interaction of time-space, other intermediate action (or intermediate particle) are not only unnecessary but also cannot exist.

4. Light and Darkness

Time-space are chemically combined to create light and darkness (from now on, it is called a vacuum).

$S + T = ST$ (light),

$T + S = TS$ (vacuum).

Vacuum that has inherited the space properties is a single cosmos field, static property, and a vessel of everything. Vacuum has no time-space curvature.

Light inherits the properties of time and has dynamic divergence properties. Light is pure energy, first substance, the material of everything, cornerstone of science (angular momentum : Planck constant and quantum physics, light speed c : Y factor and special relativity), and touchstone. For example, a singularity that is volume 0, mass infinite,

cannot exist. In order for the mass of a space of volume 0 to be infinite, the space must converge indefinitely. However, the divergence of time inhibits the convergence of space. The divergence of time and convergence of space always inhibits each other, balancing divergence and convergence. Thus, space cannot converge indefinitely, and singularities cannot exist. No material can exceed the physical amount of gamma-ray photon energy per unit volume.

Since light and vacuum are made of time-space, their properties are not pure dynamic properties or static properties. For example, photons exhibit dynamic divergence properties, but also have convergence properties of space as particles.

5. Basic Particles

Light and vacuum chemically combine with one of the opponent properties (convergence or divergence) to produce basic particles.

Here, D = divergence, C = convergence.

The property and shape of vacuum is DC, and the light is CD. Because DC is the space of the time flow, property C of the space reveals, and property D of the time reveals because the CD is the time flowing through the space.

1. Basic particle types and production principles

$DC + C = DCC$ (convergence particle),

$DC + D = DCD$ (neutrino),

$CD + D = CDD$ (divergence particle),

$CD + C = CDC$ (electron).

Convergence particle is the particle that combines C of light to the vacuum DC. In the same way, neutrino, divergence particle, and electron are made.

These are all fermions, their spin angular momentum is half that of photons is the average value of photons 1 and vacuum 0. The same is true of the mass of the particles. When a particle pair is created, the vacuum has no mass, so only the mass of the photon is given to basic particles.

Time-space do not produce other basic particles, such as quarks or intermediate particles. Basic particles cannot be made other than these four types. For example, if the electron is combined with D or C, then $CDC + D = CDCD$, $CDC + C = CDCC$. Here, $CDCD$ is a combination of two light (CD), and $CDCC$ has electrons CDC inside, so these cannot be the basic particles. There are only four basic particles that make matter.

2. Characteristics of basic particles

Convergence particles are strong convergent particles to form protons. Since positrons are positive (electrical) and convergence particles are negative (original), their combination is easy. However, convergence particles exclude electrons, because they are all negative. Namely, convergence particles and electrons have a neutral exclusion. This neutral exclusion is a contact action, such as time expansion and space contraction. Therefore, convergence particles combine with positrons to form protons.

Neutrino has inherently convergence properties DC, but it moves actively because D is combined. Neutrinos accompanied by electrons act as an insulator to prevent electron pair extinction. Thus, neutrinos contribute in part to the formation of neutrons or electrically neutral atoms.

Electron is the only particle with the charge. $CD + C$ means 'Convergence after divergence', and it is the characteristic of charge. In other words, electrons can move freely and combine easily with other particles, and maintain stability. This is why there are many kinds of charged particles.

Divergence particle is a very unstable particle. It quickly turns into a wave after a brief appearance. One of the reasons why there are many kinds of particles and their life is short is because of divergence particle. Divergence particle easily combines with other particles to form varies particles, but does not last long, and easily escapes. It is estimated that the instanton is the divergence particle.

3. Formation of some synthetic particles

1) Proton: convergence particle + positron + neutrino

The proton is the different appearance of convergence particle. The reason why proton's strong stability is strong convergence of convergence particle. Usually electrons combine with the edges of other particles, but convergence particle is so strong in convergence that it traps positrons in its center. In addition, if neutrino's insulator role is added, positrons cannot only escape protons, but also they cannot be electrically combined with extranuclear electrons.

2) Electrons-neutrinos

These are neutral combination of opposite properties (*CDC-DCD*) formed by gravity. This is why electrons are often accompanied by neutrinos.

3) General synthetic particles

All synthetic particles, including proton and charged particles, are formed by gravity, namely convergence.

*Until now, it had been thought that electrons could not exist inside the proton. The cause is the calculation of the momentum of electrons using uncertainty.

The contents are as follows.

In the $\Delta x \Delta p \geq \dfrac{\hbar}{2}$.

The atomic nucleus diameter is $10\,\text{fm}$ $(\text{fm} = 10^{-15}\,\text{m})$, $\Delta x = 10\,\text{fm}$.

$$\Delta p = \frac{\frac{\hbar}{2}c}{\Delta x c} = \frac{197.3\,\text{MeVfm}}{10\,\text{fm}c} = \frac{20\,\text{MeV}}{c}\,,$$

$$E = \sqrt{\Delta p^2 c^2 + m^2 c^4} \quad (m = \text{electron mass})$$

$$= \sqrt{(20\,\text{MeV})^2 + (0.511\,\text{MeV})^2} = 20\,\text{MeV}.$$

The kinetic energy $= E - mc^2 = 20\,\text{MeV}.$ [1]

However, the kinetic energy of the released electron by the beta decay was less than $1\,\text{MeV}$. Therefore, it was concluded that there could not be an electron in the atomic nucleus.

But if the electron is in a box that fits its body, it becomes stationary, and

$$\Delta x = 0, \quad \Delta p = \frac{\frac{\hbar}{2}c}{0} = \infty.$$

The position uncertainty is 0 (because the electrons are definitely in the box), the momentum uncertainty is infinite. However, if calculated by uncertainty, the meaning of Δp changes to p, and the momentum become infinity. The position uncertainty means that when a particle changes to a wave, its future position (when the wave changes back to a particle, the position of the particle at this time) is unknown. Therefore, it should not be set to Δ 10 fm. And here, if the atomic nucleus diameter is 2 fm, the kinetic energy becomes $100\,\text{MeV}$. This calculation is wrong, as kinetic energy varies according to the atomic nucleus diameter regardless of its velocity. Therefore, uncertainty should not be used as a calculation tool.

The misunderstanding that electrons cannot exist in the nucleus has

led to the emergence of today's standard model. The standard model is wrong from the start.

4. Some problems in the standard model

1) Nothing can be said about the essence of matter (dark matter included).

2) It is impossible to explain the production principles and characteristics of basic particles.

3) The essence and origin of the charge is unknown.

4) Gravity and shell shape cannot be explained.

5) No virtual particles can be found, and the process of the medium of force is illogical.

6) It can not account for the characteristics and offset of strong and weak interactions.

7) The formation-collapse or transformation of some particles is irreversible and not causal.

8) In the standard model, muon and tauon are basic particles without internal structure. However, when they collapse, other basic particles such as electrons and neutrinos are released. This means that the standard and content of the basic particle are wrong.

The time-space principle solves all of these problems. In particular, the medium of force is not a virtual particle, but as $F = ma$ suggests, time-space. For example the medium of electrical force is not a virtual photon but an electric field (namely, time-space). And there is no medium of gravity, but only time-space that forms a gravitational field. The gravitational field is divided into the anti-gravity of divergence and the gravity of convergence, depending on the direction of action.

The reason quarks and virtual particles are not found is because they do not exist in the world.

5. Time-space causality

The electron-pair production from gamma photons and the emission of gamma-rays by the electron-pair annihilation are representative evidence of time-space causality.

Since the basic particles are complete entities, the structure do not change except for the pair annihilation, and no other particle is released when they collapse. Basic particles must be converted into light and vacuum when they collapse. But the muon releases neutrinos and electrons when it collapses. [1] This is proof that the muon is a synthetic particle. The truth is,

$$\mu = e + \bar{\nu} + \nu.$$

1) Causality principles

The time-space principle is a causality. It is as follows.

(1) Invariability: All elements do not generate, or perish on their own.

(2) Reversibility of formation-collapse: A basic particle (e.g., electron, neutrino) that is the final decomposition product of a synthetic particle is a component of that synthetic particle.

(3) Minimal action of formation-collapse: Exclude intermediate (virtual) particles.

(4) Clarity: Exclude coincidences, random.

2) Non-causality

The process of formation-collapse of π^+ as we know is $u + \bar{d} \rightarrow \pi^+$ formation, π^+ collapse $= \pi^+ + w^+ \rightarrow \mu^+ + \nu$ [1].

However, because this process is non-causality, no reverse process is

established. The truth is

$\mu^+ + \nu = \pi^+$ formation, π^+ collapse $\rightarrow \mu^+ + \nu$.

By the way, muon collapses into electron and neutrino pairs.

$\mu^+ \rightarrow e^+ + \bar{\nu} + \nu$.

The final decomposition products of π^+ are electrons and neutrinos, which means that π^+ is composed of electrons and neutrinos.

6. Anti-world

Basic particles are always made into particle-anti particle pairs. Particle pairs, as electron pairs show, show positive (divergence) and negative (convergence) forms. Then there may be an anti-world somewhere in the world. But so far no evidence has been found about the anti-world. The cause is

First, the directionality of the charge (directionality of charges flowing from a divergent positive charge to a convergent negative charge).

Second, the interaction of gravity and electrical forces.

For example, in the case of hydrogen atoms.

1) Convergence particles are negative (original) and extranuclear electrons are negative (electrical) as well, so they exclude each other. Of course, their exclusion is electrically neutral.

2) Extranuclear electrons trapped in an atomic gravitational field are passive in electrical combination compared to positrons.

3) Although positrons try to combine towards extranuclear electrons (the directionality of charges flowing from anode to cathode), positrons cannot escape from the strong gravitational field of protons.

4) Consequently, positrons and extranuclear electrons inside the proton cannot be combined.

5) Both protons and hydrogen atoms remain stable.

However, the case of a anti-hydrogen atom is completely different.

1) The anti-proton's extranuclear electron (positron) faces the electron inside the anti-proton.

2) Electrons have convergence properties (negative) and are willing to accept positive electron entry.

3) Therefore, the combination of the electron pairs takes place in an instant, which immediately converts them into gamma-ray photons.

4) Gamma rays decay the anti-proton internally. Eventually, the anti-proton collapses as soon as it is made.

5) Neutrino accompanied by electrons acts as insulation, but it is not enough to prevent their strong combination.

6) In conclusion, because anti-proton cannot exist, there cannot be an anti-world.

*Anti-convergence particle, which makes up the anti-proton, has essentially a convergence property, just like convergence particle. Because the convergence particle of protons is negative (−), so it is combined with positrons (+), and because anti-convergence of anti-proton particle is positive (+), so it is combined with electrons (−).

*The common factor in the action of convergence particle pairs and electron pairs is that the gravitational force of convergence particle pairs is stronger than that of electric force, and the difference is that positrons are active (due to the divergence properties) in electrical combination and electrons are passive (due to the convergence properties).

7. Conclusion

In this section, we focused on the production principles and characteristics of basic particles, causality, the problems of the standard

model, and the anti-world.

Time-space principle states that the standard model was wrong from the start, and that no strong action or weak action was created. Time-space principle says as follows. All particles found so far (excluding unobserved particles such as quarks and virtual particles), can be made of four types of particles made by light and vacuum.

There are basic particles within the synthetic particle, light and vacuum within the basic particle, and time-space within the light and vacuum. Light and vacuum become parents of basic particles, and time-space becomes grandparents.

6. Macro-world

The structure of particle and wave expands to form a macro world of celestial bodies and fields. Namely, a dual structure of convergence and divergence from elementary particles (more precisely, photons) to the macro-world is formed.

7. Etc.

1. The cause of uncertainty

1) An essential cause

Uncertainty is caused by the duality of matter. This is because if a particle changes to a wave, the mass, position, and momentum of the particle will be unknown at all. Essentially, the duality of matter is caused by time-space.

Divergence property of time is revealed as waves, and convergence property of space is revealed as particles. That is, the essential cause of uncertainty is time-space.

2) The uncertainty of measurement

In the $\Delta x \Delta p \geq \dfrac{\hbar}{2}$, $\Delta p = \Delta m \Delta v$, $\Delta v = \dfrac{\Delta dx}{\Delta dt}$, $\Delta x \Delta p = \Delta x \Delta m \dfrac{\Delta dx}{\Delta dt}$.

If Δx is set to 0 to avoid any uncertainty of the position, the particle shall stop for short time. At this time, dx also 0, and velocity $\dfrac{0}{dt}$ become mathematically impossible. Ultimately, it is impossible to accurately measure the momentum, which results in uncertainty. It is now assumed that in order to avoid uncertainty in momentum (velocity), the position and distance of the particles are known accurately. Then, Δdt, the uncertainty of the measurement time is set to zero. A measurement time uncertainty of zero means that a particular point in time is set. In other words, dt is zero. At this time, the space information becomes $\dfrac{xdx}{0} = \infty$, and the position and distance of the particle is completely unknown. If space information is accurate, time information becomes uncertainty, and vice versa.

*Meaning of uncertainty: The narrow meaning of uncertainty is that the particle's future position and future momentum are all exactly unknown. But the real meaning is that the future of the space-time world is unknown.

2. Dark energy

Darkness (vacuum) = common time + common space.

Dark energy = unique time + unique space = general energy.

Dark matter = the convergence form of dark energy = general matter.

Dark matter exists not only in the macro world but also in the elementary particle world. For example, the mass of the muon is about $207\,\mathrm{MeV}$ [1], and the mass of electrons and neutrinos released when it collapse is about $1\,\mathrm{MeV}$. The remaining mass of about $206\,\mathrm{MeV}$ is dark matter (general matter).

3. Inertia force is the action of time-space

1) When the subway starts, the passengers' bodies lean backwards because the feet and heads start at different times.

First, the subway and the passengers' feet start simultaneously.

Second, time passes from feet to heads just like subway progress time.

Third, after the feet start, it starts in the order of knees, waist, and shoulders.

And the heads start at the last.

2) Centrifugal and centripetal forces coexist, are the same size and act at right angles to each other. Therefore, the resultant forces are offset by $\vec{A} \cdot \vec{B} \cos 90° = 0$. Neither force can exist if they operate in the opposite direction.

Centrifugal force = anti-gravity = tangent.

Centripetal force = gravity = normal.

4. Non-locality

Quantum entanglement and observation are phenomena in which no common time is related between the two systems.

1) Two electrons, no matter how far apart they are, are immediately responded because of the non-locality (here, the common space acts as a medium for connecting two electrons). At this time, they do not get close or distant from each other because of their non-locality, although they show reactions to the other. However, when a common time is related, non-locality disappears and locality appears. Namely, an electric field is formed between these electrons. Therefore, if these electrons are the same charge, they become distant from each other, and if they are opposite charges, they become close.

2) *A* has observed a star exploding one light year from Earth. In the

past, this was said to have occurred a year ago. But this is current event, *A* can immediately observe the explosion because of the non-locality. And the light emitted by the explosion will reach Earth after a year due to locality. If observation is locality, we cannot see anything because of the collision of countless particles moving in all directions.

5. Unification

1) Unification Field

Unification field is the unification of gravitational field and electric field. In the theory of general relativity, $R_{\mu\nu} = T_{\mu\nu}$ [1] (express briefly for convenience) is gravitational field equation. This equation is

(1) Based on the equivalent principle of acceleration and gravity, it is determined that inertial mass (ma) = gravitational mass (mg).

(2) The basic concept is that mass distorts time-space.

(3) It cannot define mass and gravity.

But the time-space principle states

(1) The essence of the equivalent principle is acceleration field (a) = gravitational field (g) = mass (m).

(2) The space bends over time and this space-time curvature converges to form mass. Namely, mass = gravitational field (time-space). If there is no matter here, namely, $T_{\mu\nu}$ (matter) = 0, then the time-space curvature $(R_{\mu\nu})$ is also zero. This reaffirms Proposition 1). Without time-space, there is no matter.

(3) Mass and gravity were defined in Section 3 - 1 - 1) - (1) - * and Section 3 - 2, respectively.

The Gauss's law $\nabla \cdot E = \rho/\varepsilon_0$ (E = electric field, ρ = charge density, ε_0 = dielectric rate of a vacuum) [1] is essentially $E = \rho$. Namely,

electric field (time-space) = charge.

Therefore, gravitational field and electric field are both time-space.

Unification of relativity and quantum theory is also possible. Gravitational fields correspond to waves and gravitational masses correspond to particles. The gravitational field of gentle curvature and the quantum field of violent curvature are both spaces warped by time, and they are all one object field made up of divergence and convergence. Therefore, unification of all fields is proposition 1), 2).

Movement equations that express the energy-mass changes of an object are movement = matter in essence. Movement converts into matter, and becomes one with an object. See Chapter 3 - 1 -1) - (1).

In conclusion, energy (mass, charge), movement, and field (electric field, gravitational field, quantum field) are all time-space. Everything except life and soul is time-space.

2) Ultimate unification

Time-space are inseparable. So are chaos and the cosmos. This is the unification of the material, life, soul, and human. Chaos coexists with the cosmos as the coordinates of zero, and its format is five dimensions of $\{ch(0), (x, y, z, t)\}$. Here, $ch(0)$ means chaos, not nothing. Because time-space can never be born from nothing, $ch(0)$ cannot be made or eliminated. It exists on its own and lasts forever. Man is a five-dimensional being in which the soul and life are combined with the body.

8. The end of the Cosmos

The closure of space and the stop of time are the end of the cosmos. Time-space cannot exist alone, so when one element disappears, the other disappears simultaneously. Time-space (including singularity) cannot be trapped in the chaos, so their scale is infinite. That is the same logic that the human body cannot be trapped in the soul. Infinite time-space is

created and destroyed at once. Chaos still exists, even though the cosmos is gone.

The cosmos is neither finite nor expanded. If the cosmos is finite, order cannot be maintained due to numerous internal collisions. If the cosmos expands, gravity is destroyed. If you observe the retreat of the celestial body on a certain day and again the next day, the celestial body is still in place without retreat. This phenomenon is due to the rotation of the earth and will be repeated every day.

9. Conclusion

To summarize the time-space principles,

1) Proposition 1) energy (mass) is a time-space combination, Proposition 2) time is positive, and space is negative.

2) The basic action of cosmos is gravity and anti-gravity, which are expressions of unique properties of time and space, and electrical forces, which are expressions of interrelationship properties. Strong and weak actions have no unique properties and offset function, so cannot be the basic action.

3) The duality of quantum: The particles are the expression of convergence properties of space and the waves are the expression of divergence properties of time.

4) Time expansion and space contraction occur due to the mutual exclusion of common time-space and unique time-space.

5) Dark energy is not different from general energy, and it is a unique time-space.

6) Production principle and characteristics of basic particles, supplementation and resolution of problems in the standard model, and explains that anti-world cannot be established.

7) Identifying the source and meaning of uncertainty.

8) Identifying the essence of quantum entanglement (non-locality) and inertia force.

9) The convergence of space and the divergence of time are always balanced by inhibiting each other. Thus, there cannot be a singularity in which space converges indefinitely and has infinite energy.

10) Overcoming the limitations of general relativity.

- The idea of "mass distorts time-space" is modified that "Time bends space and this curvature of time-space forms mass".

- Gravity is defined as convergence action of time-space, Mass is the convergence density of time-space.

11) Energy, movement, and the unification field are all time-space.

The time-space principle simply explains the key secrets, and solves major problems of the cosmos.

Until now, we had not known the beginning of the cosmos, the singularity of the Big Bang. But the time-space principle says that the cosmos was created from chaos, and all things are made by interactions of time-space.

The difference between knowing the beginning of the cosmos and not knowing it is the difference between truth and fiction. The Big Bang cosmology put the cosmos within the singularity, but the time-space principle put the cosmos within two propositions. Compare these two cosmologies.

References

[1]   http://nucl-a.inha.ac.kr/physics/ Source: Physical walk with Professor Cha (Cha Dong Woo) (Yahoo Korea), https://blog.naver.com/dcha, The date quoted is 2010. 2. 5.

    [a]   Theory of relativity and related formulas.

    [b]   Lagrangian.

    [c]   Gaussian Law.

    [d]   Uncertainty equation, the process of calculating the kinetic energy of electrons using uncertainty.

    [e]   Muon collapse process and mass.

    [f]   The process of formation-collapse of $\pi(+)$.