THEORY Theory of spin

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ABSTRACT

With a clear demonstration, the essence of the invariance of the speed of light is unrelated to space and time, as the Theory of Relativity has affirmed. The law of velocity relationship, the law of radiation distribution, and the consequences of these laws have also been established, fully explaining the essence of the invariance of the speed of light. Simultaneously, the new concept of radiation in material space along with the laws of velocity relationship, the law of radiation distribution, is also the foundation for establishing a general theory of the universe. Based solely on a unique difference between material elements, the spin property, the established theory has fully addressed the following issues:

INTRODUCTION

The mathematical thinking is infinite, but reality and existence are finite. Godel's Incompleteness Theorem can only be applied to the infinite (besides this, there is something else surrounding it), while Heisenberg's Uncertainty Principle violates the existence of existing material.

The Spin theory only uses Analysis Mathematics instead of Vector Analysis

The spin theory has unified physics and mathematics into a unified entity that cannot be separated, while proving that the universe is a sphere filled with photons with a standard worldview:

- Space and time are two mathematical concepts of thought, independent and not dependent on the objective world. These are absolute concepts.
- 2. The universe is a sphere filled with photons with spin

$$W=C[rad.s^{-1}]$$

- 3. Matter is where the photon density is higher than the photon density of space.
- 4. Matter spin has a value of $W = \frac{c}{R}$ (C speed of light, R radius) moving relative to each other, while Space photons always remain stationary.

To understand the universe, humans must necessarily cease applying the concept of infinity in mathematics, namely the incompleteness

- 1. The nature of interactions through distance such as gravitational interaction, electromagnetic interaction, nuclear interaction, etc.
- 2. The nature of electromagnetic phenomena, the cause of atomic structure.
- 3. Mass and inertia of mass.
- 4. The nature of thermal phenomena.
- 5. The structure, shape, and ultimate limits of the universe.

Keywords: Relativity; Velocity; Gravitational interaction; Electromagnetic interaction; Thermal phenomena

theorem and the uncertainty principle, to studies of the material world.

Mathematics is a quantitative science, without the equal sign (=), mathematics will no longer be mathematics or calculation. When mathematicians use numbers to represent directed quantities and creatively create Analytic Geometry, followed by Vector Analysis, collectively they have facilitated the sophistry of present-day theoretical physicists. Vector Analysis has proven to be an extremely effective tool for theoretical physicists to the extent that without this mathematical discipline, modern physics would not exist. Directed quantities are represented by vectors with magnitude, specific direction in a certain space, which can be Euclidean space or an 11dimensional space like String theory, for example. At first glance, it seems very logical, but if we ask: How many people see a vector with the same magnitude, direction? Relativity does not allow us to achieve that, because the concept of vectors or directed quantities is a local concept, specific cases, therefore not universal like scalar quantities. Due to this limitation, sometimes physical equations represented by vector analysis are very awkward in using the equal sign (=) instead of non-explicit equations. This is the ground for theoretical physicists to present non-material, super-physical ideas according to their own will without being challenged, causing the theoretical physics of humanity to be misguided.

Even if the civilization on Earth achieves great scientific and technological accomplishments, it is only the achievement of a

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Triet

science based on intuition. If one continues to be proud of that arrogance, humanity will forever be like a blind person dancing around without an exit. All thinking must be based on the operation process of every process, so the concept of speed is the theoretical foundation for all thinking. If the perception is not consistent and general about speed, which leads to space and time, then all our thinking and theories will be inconsistent and not universal in the scope of the entire universe. For example, we often hear the familiar statement in physics textbooks that A moves relative to B with velocity vector Vab. In general, the speaker subjectively considers that the whole world moves like him, but in reality, all material worlds are moving relatively to each other. The intuitive and subjective perception of speed has led to our misunderstanding of space and time in our intuitive science, resulting in all conclusions and theories being inconsistent and not universal. The boundary between Right and Wrong in science has become blurred, and the orthodox science that has become like that will lead to the development of various theories and different reasoning of humanity like mushrooms, with no one yielding to anyone, because humanity cannot distinguish who is right or wrong, and thus the diverse society of humanity on Earth loses stability for survival.

Absolute space and absolute time

Through 2 fixed points, there are countless paths passing through those 2 points, but the straight line is the shortest path. The issue is that we have no basis to distinguish which is a straight line and which is a curve. For mathematicians, they may use the concept of infinitely large and infinitely small to compromise that is acceptable. For physicists, in reality, there is only one, curve is curve, straight is straight, there is no possibility of being both curve and straight. The physical definition of a straight line:

A straight line is a line coinciding with the axis of free rotation.

The law of conservation of the axis of free rotation has been theoretically and experimentally affirmed, and is currently being applied as the gyroscope in the orientation devices of aviation and space technology.

This definition has helped physicists to distinguish absolutely between curves and straight lines. For example, the axis of rotation rotates in the direction of any line connecting 2 points and starting the rotation axis, if the axis of rotation does not coincide with the direction of the path, then it is a curve, if it always coincides with the direction of the path then it is a straight line. Therefore, according to the direction of the free rotation axis, we can always determine the straight line in space, thereby determining the plane, distance, etc... The universe space is Euclidean space, all other space models are mathematical space models.

The instantaneous nature of the source image "At the time, when light from the source reaches the observer, it is the image of the source at that time", or the simultaneous relationship between the mirror image and the object being reflected (analyzed through the experiment of a light source between 2 flat mirrors) has affirmed that: Light rays are always a continuous and uninterrupted straight line connecting from the source to the observer. The phenomenon of gravitational lensing causing light rays to bend is, according to modern physics, just an explanatory and computational method based on the hypothesis "space is curved due to massive objects". The Spin theory has indicated that the mass spin radiation environment in the vicinity of massive objects reaching a dense mass spin radiation density to the extent that it exhibits lens-like properties similar to matter, causing light rays to be refracted as when passing through a lens rather than being bent. In such cases, light from the lens to us is considered to be from a secondary source (Here we only refer to the distance between 2 points according to the definition of a straight line in physics).

If there is absolute space, then there must be absolute time.

Based on the mirror symmetry between the object and its image in the mirror, all processes occurring in incident rays and reflected rays are simultaneous, or incident rays and reflected rays appear simultaneously with each other, from the moment the incident ray touches the mirror surface (when the incident ray touches the mirror surface, the reflected ray in the mirror also touches the mirror surface simultaneously at that moment). The phenomenon of mirror symmetry has affirmed that we can only observe the current image of every object and cannot observe the past or future as we perceive now. To determine an absolute unit of time, we can broadcast live the running clock throughout the universe, although the images come from different distances with different times, but the astronauts on distant spacecraft all receive the image of the clock running at the same pace, taking that pace as the absolute unit of time. This determination method may be somewhat biased because electromagnetic waves and light are completely different in nature, electromagnetic waves have delays while light does not, so it is only for the purpose of making it easier for you to imagine. You can imagine the image of a fixed clock on Earth in mirrors flying at various speeds, everywhere in the universe, then the image of the clock in every mirror will all show the same time.

Relative and absolute

The concept of motion is always associated with space and time, not only that, but all branches of human science must also be associated with it, because motion is a property of matter, is the cause of all causes. Due to the relative nature of motion, we can only recognize that this object is moving relative to that object by comparing the velocities between them and us, and thus the concept of reference frame is born. We can choose anything existing in the universe as a reference frame, while everything existing in the universe is moving relative to each other, so in our perception there cannot be an absolute reference frame. In other words, our science is a relative science, meaning it can be correct at one time and incorrect at another time, depending on the perspectives of different minds about nature and the universe. For a healthy mind, this is unacceptable because, if it is science, right and wrong must be clearly distinguished absolutely like mathematics. To overcome the shortcomings of relative science, we must determine an absolute reference frame for all motion in the universe, only then can we have an absolute science. In this way, we will no longer have any doubts about our knowledge of nature, and can confidently develop our absolute science sustainably and permanently coherent. The phenomenon of the constant speed of light in relation to any reference frame, C = Const, specifically, even if we stand still or move at the speed of light, the relative speed between us and the speed of light is still C, even the J Pure Appl Math Vol 8 No 3 May 2024 relative speed between light and light must still be a constant C. If there is a "Black" point in reality, standing absolutely still in the universe, then the speed of light relative to it must still be C. This demonstrates that the speed of light is the absolute speed in the universe and we can choose light as the absolute reference frame. The issue now is how to choose light as the reference frame, while there is no way to compare the speeds of different reference frames with the speed of light. Based on the law of velocity relationships, we will be able to choose light as the absolute reference frame without any obstacles. It is thanks to choosing light as the absolute reference frame that the Spin theory has described the universe in a simple, clear, and coherent way, not only that, nature seems to want to suggest many things for this theory.

Density of radiation flux and velocity of radiation in space.

Law of Velocity Relationship and new concepts of radiation in space

Every velocity vector \vec{v} can be analyzed into two perpendicular components \vec{v}_x, \vec{v}_y according to Pythagoras' theorem:

$$v_{y} = \sqrt{v^{2} - v_{x}^{2}} \rightarrow v_{y} = v \cdot \sqrt{1 - \frac{v_{x}^{2}}{v^{2}}}$$

To simplify, we choose the projection direction aligned with \vec{v} at a 45° angle, then $v_x = v_y = V$, substituting into the formula above we have:

$$V = v \cdot \sqrt{1 - \frac{V^2}{v^2}}$$

Dividing both sides by s: $\frac{s}{V} = \frac{v}{\sqrt{1 - \frac{V^2}{v^2}}}$

Let $t = \frac{s}{V}$, $t' = \frac{s}{v}$, (considering t, t' as the time for velocities v and V to cover a distance s), substituting into the formula we have:

$$t = \frac{t'}{\sqrt{1 - \frac{V^2}{v^2}}}$$

The velocity v is also the relative velocity between the two component velocities V, so when considering t as the time for the system to be at rest, then t' will be the time for the system with velocity v relative to the other stationary system.

In particular, if v = C, we have:



The formula above demonstrates that t, t' are the time intervals for the light speed C and the component velocity V to cover the same distance s, rather than being specific times for each reference frame as the theory of relativity has asserted.

According to the Theory of Relativity, if a person travels at a speed close to the speed of light, when returning to Earth, he will be younger than others. Is this a paradox or reality?

The Spin theory indicates that this is a natural phenomenon rather than a paradox, as the theory of relativity originates from equivalent mathematical equations, hence yielding results that are also illusory, akin to the illusion of the Sun revolving around the Earth. As will be discussed in the following section, we will see that. The nuclear force $F = M \frac{C^2}{R}$ (M mass, R radius, C speed of light) is the cause of all processes occurring in the universe, including the life and death of all living species. When M moves with velocity V, it emits mass magnetic spin radiation $B = \frac{M.V}{R}$, the radiation environment generates inertial force $F_{iner} = \frac{M.V^2}{R}$ opposing the nuclear force: $F_{sum} = F - F_{iner} =$ $\frac{M(C^2 - V^2)}{R}$ slowing down all processes caused by the nuclear force, not time contraction as the theory of relativity has concluded. Specifically, considering the product $(C^2 - V^2)$ in the equation above, we have: $C.\sqrt{1-\frac{v^2}{c^2}}$, Let $t = \frac{s}{v}$, $t' = \frac{s}{c\sqrt{1-\frac{v^2}{c^2}}}$, t' the time for $\sqrt{(C^2 - V^2)}$ to travel the distance s, we have the formula for the time delayed by v: $t' = \frac{t}{\sqrt{1 - \frac{V^2}{C^2}}}$ completely coincides with Einstein's Lorentz formula. This explains why scientists, although misunderstanding the time dilation effect caused by motion, still use

misunderstanding the time dilation effect caused by motion, still use this formula accurately in reality. We can reach the final conclusion: Time and space are mathematical concepts of the mind, independent and not dependent on the objective world. They are absolute concepts.

Starting from the relative viewpoint that has been prevalent until now: "I see how you move, then you see me move in the same way," which Einstein formulated the theory of relativity. The issue raised here is: In the radiation environment, is the relative velocity between two reference frames in the same direction, equal but opposite, according to the prevailing view until now, or is it the difference vector of the two velocity vectors equal, opposite, and perpendicular to each other? Intuition in conventional dynamics has led Einstein to deduce the theory of relativity, and we have acknowledged, inadvertently overlooking the fundamental core in reasoning regarding the radiation environment that: When comparing the velocities of two arbitrary frames, one of the frames chosen as the reference frame must be considered stationary relative to the other frame, regardless of any motion that the reference frame may have, meaning that all velocity vectors of the reference frame, when projected onto the relative velocity vector between the two frames, must be zero, i.e, perpendicular to that relative velocity vector, or in other words. At a given time, the reference frame moves around the stationary reference frame, considered the center of rotation with an angular velocity having a tangential velocity as the relative velocity vector. Therefore, if we adhere strictly to the relative viewpoint, we must deduce that the velocity vectors between the two frames are perpendicular and equal, and the sum of these relative velocity vectors is the relative velocity vector between the two frames.

The velocity component vectors and the relative velocity vector between two systems form an isosceles right triangle, with the side vectors being the velocity component vectors and the hypotenuse being the relative velocity vector, meaning the velocity component vectors and the relative velocity vector always satisfy the Lorentz transformation formula. In order to develop a general theory to explain the formation in the past, interpret the current motion, and predict the future fate of the Universe, it is essential that we have a consistent concept of velocity and relative velocity in the motion of all forms of matter in the universe, because "There are many theories, but in reality, there is only one".

To recognize all movements in the conventional dynamics environment without going through the radiation environment, the moving elements must directly contact each other. Specifically, we have chosen the laboratory coordinate system as the reference system (with the Earth's center as the origin) and consider this system to be stationary relative to all other reference systems. In this case, every point in space belongs to the fixed reference system and the coordinate parameters (X, Y, Z) indicate the presence of the fixed reference system at the observation point. In other words, at every point in space, the moving reference systems always directly contact the fixed reference system. Assuming the relative velocity upon contact between two objects is \vec{v}_{AB} , to ensure simultaneity, equilibrium, and relativity in motion, the reference systems must move together with the corresponding velocities \vec{v}_A, \vec{v}_B satisfying the condition:

(a)
$$\vec{v}_A = -\vec{v}_B$$

(b) $v_A = v_B = \frac{v_{AB}}{2} = v \rightarrow \frac{v}{v_{AB}} = \frac{v}{v_{re}} = \frac{1}{2}$
(c) $\vec{v}_A - \vec{v}_B = \vec{v}_{AB}$; $\vec{v}_B - \vec{v}_A = \vec{v}_{BA}$

On the other hand, according to the concept of relative velocity in the radiation environment, we have:

$$(d) \quad \vec{v}_{x} = \vec{v}_{y}$$

$$(e) \quad v_{x} = v_{y} = v_{xy} = \frac{v_{AB}}{\sqrt{2}} = \frac{v_{re}}{\sqrt{2}} \rightarrow \frac{v_{x,y}}{v_{re}} = \frac{1}{\sqrt{2}}$$

$$(f) \quad \vec{v}_{x} - \vec{v}_{y} = \vec{v}_{AB}; \quad \vec{v}_{y} - \vec{v}_{x} = \vec{v}_{BA}$$

From the given conditions (b), (e) we have that $v_{x,y} = v\sqrt{2}$, combined with the conditions from (a-f), it shows that \vec{v}_A, \vec{v}_B are the velocities of each reference frame corresponding to the relative velocities \vec{v}_x, \vec{v}_y . Since light is a radiative environment, we have the law regarding the relationship of velocities of any reference frame as follows:

The relative velocity between two reference frames in a radiation environment is represented by the difference vector \vec{V}_{re} of the velocity vector components \vec{V} , with the magnitude determined by the formula:

$$V_{re} = V.\sqrt{2} \tag{1}$$

According to formulas (1), the ratio of relative velocity in a fixed space (static reference frame) to relative velocity in a radiating space (dynamic reference frame) is invariant.

The velocity of an object is the rate of change of the object's coordinate in a fixed space per unit of time, while relative velocity is the rate of change of the object's coordinate in a changing space per unit of time. From the above discussion, we can see that the current concepts of velocity and relative velocity between objects in the universe are inconsistent, or in other words, we have described the same phenomenon but occurring in two different spaces. The law of velocity relationships allows us to have a consistent understanding of relative velocity by unifying the fixed space and the changing space into a single space, also known as the material space. We will demonstrate the invariance of the speed of light with respect to any moving reference frame in the following section; in fact, this invariance is not related to the motion of objects at all, so for now, we acknowledge light as a radiation medium, or a changing space with velocity C = Const. This also means that we have chosen light as the reference frame in the changing space, similar to determining the coordinate system for the reference frame in the fixed space.

When choosing light as the reference frame, then $\vec{c} = const$ must be considered as the relative velocity between any reference frame and light, similar to when we consider \vec{v} as the relative velocity of a certain reference frame with respect to the stationary reference frame ($\vec{v}_{fram} = 0$) in a fixed space. We can choose any frame as the reference frame and consider this frame as stationary relative to another frame, that is, the absolute velocity, therefore lacking objectivity and not accurately describing the relative motion between objects in the universe. By choosing light as the reference frame, we can overcome this, because the light reference frame is unique. Specifically, if the relative velocity of light with respect to us is C, since there are only two reference frames (either us or light), we can only rely on formula (1-2) to determine our velocity, that is: $\frac{v}{c} = \frac{1}{\sqrt{2}} = const$, if C = CONSt, even though we may

move with a relative velocity with respect to any other reference frame, theoretically, the relative velocity between us and the coordinate system in space will still have to be $v = \frac{c}{c}$.

$$v = \frac{c}{\sqrt{2}}$$

The reference frame in radiation space is an isosceles right triangle, with the hypotenuse length of c, the measurement of the relative velocity value in the fixed space, and the side lengths of $\frac{c}{\sqrt{2}}$, the

measurement of the relative velocity value in the changing space. As previously explained, the orthogonal and equal components (\vec{v}_x, \vec{v}_y) of the vector \vec{v}_{AB} are the velocities of each reference frame in the relative motion of \vec{v}_{AB} , because (\vec{v}_x, \vec{v}_y) satisfy all the requirements for simultaneity, the relative nature of motion, as well as the J Pure Appl Math Vol 8 No 3 May 2024 equivalence between the two reference frames. Unlike considering a vector equivalent to the orthogonal components of that vector, the component vectors (\vec{v}_x, \vec{v}_y) of the vector \vec{v}_{AB} mentioned above are not equivalent to \vec{v}_{AB} , but rather a physical phenomenon. Right-angled isosceles triangles are similar to each other, so the vector \vec{v}_{AB} and the components (\vec{v}_x, \vec{v}_y) can be represented along the edges of the reference frame in the radiation space. Accordingly, the vector \vec{v}_{AB} is parallel to the edge, therefore it is the relative velocity measurement in a fixed space, (\vec{v}_x, \vec{v}_y) is parallel to the corresponding side edges, so (\vec{v}_x, \vec{v}_y) are the relative velocity measurements in the changing space. Taking these measurements as parameters for all velocities in the radiation space, we can easily determine the velocity relationships of all reference frames in the Radiation space, or the Material space, specifically:

Given the vectors:

$$\vec{v}_1(\vec{v}_{x_1}, \vec{v}_{y_1}), \vec{v}_2(\vec{v}_{x_2}, \vec{v}_{y_2}), \vec{v}_3(\vec{v}_{x_3}, \vec{v}_{y_3}), \dots, \vec{v}_n(\vec{v}_{x_n}, \vec{v}_{y_n}),$$

as relative velocities in a fixed space and changing spaces of n different reference frames compared to a chosen reference frame for observation. This is a set of similar right-angled isosceles triangles, with the hypotenuses $\vec{v}_1, \vec{v}_2, \vec{v}_3, ... \vec{v}_n$ representing the relative velocity measurements in a fixed space, and the adjacent sides

$$(\vec{v}_{x_1}, \vec{v}_{y_1}), (\vec{v}_{x_2}, \vec{v}_{y_2}), (\vec{v}_{x_3}, \vec{v}_{y_3}), \dots, (\vec{v}_{x_n}, \vec{v}_{y_n})$$

Representing the relative velocity measurements in the radiation space between the corresponding reference frames. The vectors $\vec{v}_1, \vec{v}_2, \vec{v}_3, ... \vec{v}_n$ are parallel to light, hence they have directions parallel to the distance between the two corresponding reference frames being studied, and the vectors

$$(\vec{v}_{x_1}, \vec{v}_{y_1}), (\vec{v}_{x_2}, \vec{v}_{y_2}), (\vec{v}_{x_3}, \vec{v}_{y_3}), \dots, (\vec{v}_{x_n}, \vec{v}_{y_n})$$

are determined based on $\overrightarrow{v_1}, \overrightarrow{v_2}, \overrightarrow{v_3}, ..., \overrightarrow{v_n}$ respectively. With the concepts of velocity in reference frame with changing space as described above, calculations can be performed on the set of vectors $\overrightarrow{v_1}, \overrightarrow{v_2}, \overrightarrow{v_3}, ..., \overrightarrow{v_n}$ using an alternative equivalent model, which will be detailed in the following section.

The concept of relative velocity between two arbitrary reference frames in a radiation environment, as above, has helped us understand why. Although the Theory of Relativity contradicts many phenomena in reality, while there are cases that can only be explained by this theory. Therefore, up to now, although it may be difficult to accept the theory of relativity, no reputable physicist has been able to refute it. For example, when comparing our clock with the clock of a space traveler orbiting the Earth, according to the Theory of Relativity, our clock and the clock of the space traveler have different time units. On the other hand, we and the space traveler are stationary relative to the center of the Earth, as the distance to the center remains constant, so our clock and the clock of the space traveler must be like a clock placed at the center of the Earth, thus sharing the same time unit. Based on the above, we must come to the final conclusion about space and time as follows:

Time and space are two mathematical concepts of thought, independent and not dependent on the objective world.

The special form of motion, as we currently perceive it, such as "electromagnetic waves in vacuum or light," causes the phenomenon of the speed of reflected rays always being equal to the speed of incident rays for any moving reference frame relative to the source. The reason for this is the invariant nature of the speed of light, and if this invariance contradicts the Galilean transformations, then either our current perception of incident and reflected rays is problematic, or light does not change position in space. We must accept this seemingly paradoxical situation because the Galilean transformations are mathematical and cannot be violated. Now let us analyze a very simple experiment.

Place a light source between two facing flat mirrors. Because the two mirrors are facing each other, the light from the source hitting one mirror will reflect to the other mirror, and then the light reflected from that mirror will hit the first mirror... and so on indefinitely. With this reasoning, when the light source is turned off, the light will still remain on the two mirrors for duration equal to the time the light source was emitting light. However, in reality, this is not the case; on the contrary, when the source is turned off, both the incident and reflected light images from the source on the two mirrors disappear simultaneously. According to the law of conservation of mass, the instantaneous disappearance at the moment the light source is turned off indicates that light is not matter but a form of energy transmission. The result of the experiment compels us to change our current perception of light as follows:

1. The phenomenon of light or more generally electromagnetic radiation in space in general, is not the movement of material particles, but the transmission of kinetic energy at a constant transmission speed.

If the incident ray and the reflected ray disappear simultaneously, do these two rays appear simultaneously? Objects and their images are always symmetrical across the mirror surface. Due to symmetry, when light from the object touches the mirror surface, it is also the moment when light from the image of the object in the mirror also touches the mirror surface, and these two phenomena must occur simultaneously. The distance from the image in the mirror to the mirror surface is always zero, because they all lie on the mirror plane, so the reflected ray in the mirror does not change position in space, so the reflection is instantaneous, when the incident ray touches the mirror surface, it is also the moment when the reflected ray from the mirror touches the object. This does not contradict the law of causality, because the image in the mirror is not material. Furthermore, to achieve this simultaneity, the image in the mirror is always symmetrical to the object through the mirror surface, at a distance exactly equal to the distance for light from the object to travel to the mirror and back to the object, while in reality the image in the mirror is only half that distance from the object, therefore, even though it reaches the object at the moment the incident ray touches the mirror, the reflected image still remains at a distance from the object equal to the distance from the object to the mirror, meaning the reflected ray does not move at all. This is a simultaneous process, so the light source and its image in the mirror are processes that always occur simultaneously, meaning all actions of the image in the mirror are simultaneous with the observer. Similarly, the image of the material world we are observing is always at a distance from us equal to the actual distance. In general, we can conclude:

 The image of an object appears simultaneously at the moment the light ray touches the object and disappears simultaneously at the moment the power is turned off, without depending on the distance from the source to that object.

With the above conclusion, all states of the material world that we are observing are occurring simultaneously at that moment and do not depend on the distance from us to the observed object. The simultaneous appearance and disappearance of incident and reflected rays can be easily explained by the law of velocity relationship as follows: When light from a source hits the mirror surface, the reflected ray also appears, because the relative velocity between the incident and reflected rays is \vec{c} according to the law of velocity relationship, then the incident and reflected rays move simultaneously with a relative velocity in the radiation space $\vec{v} = \frac{\vec{c}}{\sqrt{2}}$ in opposite directions.

At the time when the light source transfers energy to matter (absorption process), the matter simultaneously transfers an additional portion of the received energy from the light source into space (radiation process) in the same manner as the light source. These two energy transfer processes must be carried out simultaneously and continuously over time at the speed of light. The energy transmission method of light can be likened to spining a long thread. The spining process must take a certain amount of time for the torques at both ends of the thread to balance each other. When the torques at both ends of the thread is balanced, considering the thread as a rod, any changes at one end immediately affect the other end. Based on experiments with mirrors, we can conclude that once the light from us reaches the mirror, the torques of the imaginary thread between us and the mirror have been balanced. From that moment onwards, the reflected image from the mirror to us is instantaneous, regardless of the distance between us and the mirror. Therefore, after a year, our image in the mirror is one year of light away from us and still acts simultaneously with our current actions. Additionally, we also note that in the case where the source is turned off but the light from the source has not yet reached us, meaning the torques of the imaginary thread between us and the source are not balanced, so we cannot see that light source. Space acts as a material space to transmit radiation, the elements of material space have no inertial mass, so when interactions cease, the elements of space also stop transmitting radiation, always sticking to the element that caused the interaction (soft collision). Therefore, to transmit radiation to distant distances in material space, the radiation source must continuously and uninterruptedly act on the elements of material space. We can state as follows:

1. At a certain time, the object and the radiation emitted by the object are a unified entity, not separated from each other, propagating at the speed of interaction.

From the conclusions above, we have an observation. If a source, shining and then turning off in a cycle, and during the period of illumination, the light has not yet reached us, then we cannot see that illuminating source. This observation may help us to have a plausible explanation for the current prevalent concept of "Dark Matter." Suppose there is a star with a mass several hundred times that of the Sun, but it is very far away from us, the light from the star to Earth has been obstructed by moving planets in a cyclical manner, similar to the phenomenon of a total solar eclipse, occurring at distances where, during the time period when not obscured, the light from that distance still cannot reach Earth, so we will never observe that giant star, although we can still perceive the effects caused by the massive mass of the star. Also, due to the misconception about relative velocity in the radiation environment, we consider the Hubble effect as a result of the expansion of space, but in reality, at the same time, the farther the light of an object is in the spectrum, the more it tends towards the red spectrum. In the luminous environment, we and all constituents in the cosmos constitute a unified entity. Assuming Earth as the frame of reference, we are essentially akin to the rotational center, while all other entities orbit around this center with tangential velocity distributed in accordance with the diagram of solid objects revolving around the center. Consequently, the tangential velocity is directly proportional to the distance from the observed element to the center of rotation, with the tangential velocity escalating as the distance from the center of rotation increases. This phenomenon gives rise to the apparent speed that induces the Hubble effect, stemming from our erroneous interpretation of light, leading to a misconception regarding the expansion or contraction of the universe's spatial dimensions. In actuality, space and the universe remain stationary, enduring through infinite time.

Furthermore, with the current understanding, we cannot explain. What is the reason? For a particle without mass like a "Photon" to be able to move freely with inertia at the maximum possible speed and the phenomenon of light restoring its initial speed when passing through media with different dielectric constants.

To be able to address the above issues, it is essential that we understand the nature of the phenomenon of the invariance of the speed of radiation propagation for all reference frames.