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Vision of Object, Vision of Light, Photon Inertia Transformation and Their Effects on Light Speed and Special Relativity

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Abstract*: The vision of an object, in spite of observed directly at the observation point, can be constructed by integrating the images of the object observed at a reference point during a period of time. Similarly, the vision of a photon (Vision of Light) observed at an observation point can also be constructed from the images of the photon observed at the light origin. When a photon emitted from a light source, it travels under two influences, ejection motion and inertia motion. On one hand, photon travels at a constant Absolute Light Speed (3 x 10^8 m/s) in its trajectory because of the constant ejection force caused in the photon emission process; one the other hand, it is dragged into a direction and speed the same as that of the light source due to Photon Inertia Transformation. In other words, light speed is a vector summation of Absolute Light Speed and the speed of light source observed at the observation point. Light speed in an inertia system is always a constant (unnecessarily 3 x 10^8 m/s) because the same Vision of Light can be observed at all stationary positions in the inertia system. However, oppose to Einstein's Special Relativity Theory that the light speed is always a constant no matter the light sources and observers, light speed in fact changes with the observers at different moving speeds and directions. As a result, Einstein's Special Relativity and Velocity Time Dilation theories are false and time doesn't change with velocity at all.*

Keywords*: Vision of Object, Vision of Light, Photon Inertia Transformation, Light Speed, Special Relativity, Velocity Time Dilation*

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I. Visions of Object

The vision of an object, in spite of observed directly at the observation point, can be constructed into a picture, by superimposing the images of the object and the observation point in each time frame during a period of time observed at a reference point, where the corresponding observation point and coordination system in each time frame are placed together completely matched and overlapped on top of the final observation point, and the relative position and direction between the object and the observation point in each time frame during the time period are maintained.

1.1. Principle of Vision

The relative position and direction of an object with respect to an observation point are maintained no matter the reference systems. This fact is named "Principle of Vision". According to the Principle of Vision, the relative position and direction of an object with respect to an observation point during a period of time (vision of object) are also maintained no matter the reference systems.

1.2. Theory of Vision

A vision of object observed at an observation point can be constructed from the images of the object observed at a reference point, into a picture upon the final observation point, with the same relative positions and directions between the object and the observation point maintained as that observed in the reference system. This fact is named "Theory of Vision".

To be more specifically, based on the Principle of Vision, the vision of an object can be constructed into a picture, by superimposing the images of the object and the observation point in each time frame during a period of time observed at a reference point, where the corresponding observation point and coordination system in each time frame are placed together completely matched and overlapped on top of the final observation point, and the relative position and direction between the object and the observation point in each time frame during the time period are maintained.

Two schematic diagrams are illustrated here to explain the construction process of vision of object from a reference point to an observation point:

Fig.1 shows the vision of an object observed at reference point O. Object t_1, Object t_2 and Object t_3 represent the positions of the object; and Observer t_1, Observer t_2 and Observer t_3 represent the positions and

directions of the observer (observation point), observed at the reference point O in the time frames t_1, t_2 and t_3 respectively. The curve from Object t_1 to Object t_2 and Object t_3 represents the vision of the object observed at reference point O during the time period from t_1 to t_3.

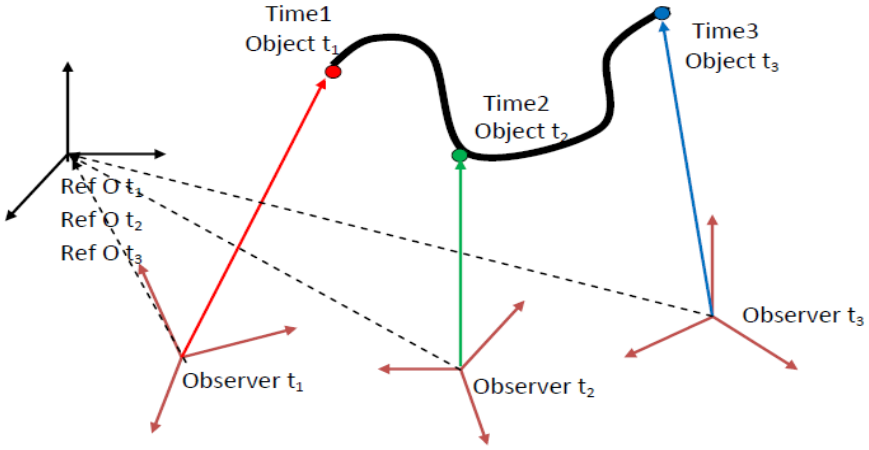

Fig. 1 Vision of an object observed at a reference point.

Fig. 2 shows the vision of the object constructed at the final observation point from the vision of the object observed at the reference point O. In which, Observer t_1, Observer t_2 and Observer t_3 and their coordination systems are completely matched and overlapped on top of Observer t_3. The corresponding Object t_1, Object t_2 and Object t_3 are maintained with the same relative positions and directions to Observer t_1, Observer t_2 and Observer t_3 as that in Fig. 1 observed at reference point O. A corresponding curve from Object t_1 to Object t_2 and Object t_3 representing the vision of object observed at the observation point during the time period from t_1 to t_3 can thus be constructed.

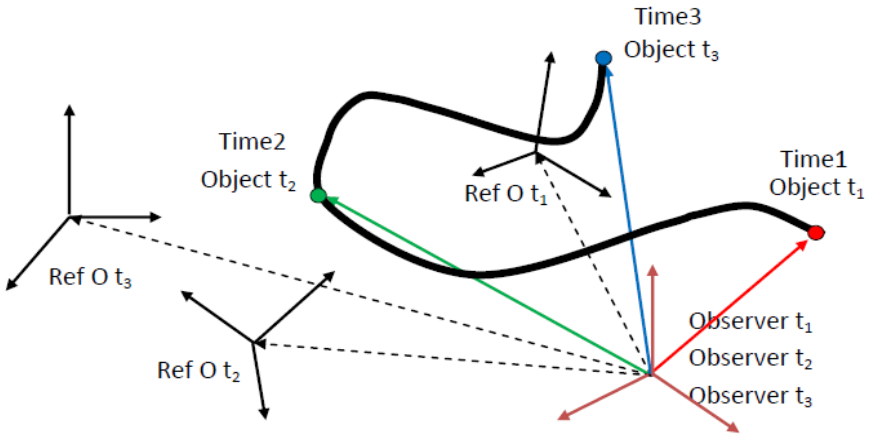

Fig. 2 Vision of an object observed at an observation point constructed from a reference point.

II. Absolute Space System

In the universe, everything moves with respect to each other. There is no absolute reference. However, when a photon is emitted from a light source it generates a straight optical path from its light origin (not light source) into space. The light origin has an absolute fixed position in space that doesn't move with the light source, nor earth or anything else. It is therefore proposed that an Absolute Space System [1] can be formed by three perpendicular axes at the light origin in the instance that a photon is emitted from the light source.

III. Absolute Light Speed

Because of the constant ejection force in the photon emission process, regardless to the frequency, a photon escaped from its parent source should always have a constant speed 3 x 10^8 m/s known as "Absolute Light Speed" [2] in the ejection direction observed at the light source.

IV. Photon Inertia Transformation

It is proposed that a photon emitted through the separation and ejection process [2] carries the inertia of the light source. In other words, a photon, emitted from a light source to space, travels not only at the Absolute Light Speed 3 x 10^8 m/s in its trajectory, but also it is dragged into a direction and speed the same as that of the light source when observed at the light origin in the Absolute Space System. This phenomenon is named "Photon Inertia Transformation" [3].

V. Visions of Light

Light speed is defined by the travelling distance of a photon divided by the travelling time of the photon measured at the observation point. This travelling distance of a photon is the length of the vision of the photon observed at the observation point during a period of time, which is named "Vision of Light" [1]. Therefore, light speed can be calculated as the Vision of Light divided by the traveling time of the photon measured by the observer at the observation point.

Similar to vision of object, Vision of Light, in spite of observed directly at the observation point can be constructed into a picture, by superimposing the images of the photon and the observation point in each time frame during a period of time observed at the light origin in the Absolute Space System, where the observation point and coordination system in each time frame are placed together completely matched and overlapped on top of the final observation point, and the relative position and direction between the photon and the observation point in each time frame are maintained as that observed at the light origin in the Absolute Space System.

Fig. 3 shows a schematic diagram of the visions of light of an emitted photon with respect to the observers at the light origin, ground and light source in Absolute Space System. Ground and light source drift apart from the light origin due to the motions of earth ($\mathbf{V_E}$) and the light source ($\mathbf{V_C}$). After a time interval Δt, assuming all motions are at constant speeds, the Visions of Light of those observers can be represented by the following straight lines: **AP** – the Vision of Light observed at light origin (black line), **BP** – the Vision of Light observed at ground (red line) and **CP** – the Vision of Light observed at the light source (green line) respectively. They all end at the final position point **P** of the emitted photon.

AP (Vision of Light observed at light origin) is the vector summation of **CP** (Vision of Light observed at the light source) and **AC** (motion of the light source from light origin). Also, $\mathbf{C_O}$ (light speed observed at light origin) is the vector summation of $\mathbf{C_S}$ (light speed observed at the light source) and $\mathbf{V_C}$ (moving speed of the light source from light origin).

$$\mathbf{AP} = \mathbf{CP} + \mathbf{AC}$$
$$\mathbf{C_O} = \mathbf{C_S} + \mathbf{V_C}$$

Similarly, **BP** (Vision of Light observed at ground) is the vector summation of **CP** (Vision of Light observed at the light source) and **BC** (motion of the light source from ground). Also, $\mathbf{C_E}$ (light speed observed at ground) is the vector summation of $\mathbf{C_S}$ (light speed observed at the light source) and $\mathbf{V_S}$ (moving speed of the light source from ground).

$$\mathbf{BP} = \mathbf{CP} + \mathbf{BC}$$
$$\mathbf{C_E} = \mathbf{C_S} + \mathbf{V_S}$$

Because of the constant repulsive force generated between two adjacent Wu's Pairs in the photon emission process, a constant light speed $\mathbf{C_S}$ (Absolute Light Speed 3x10^8 m/s) [2] in the ejection direction can always be observed at the light source. As to $\mathbf{V_C}$ and $\mathbf{V_S}$, on the other hand, they are both contributed from Photon Inertia Transformation Process.

Light speed is measured as the Vision of Light divided by the photon traveling time observed at the observation point. When a photon observed at different observation points, the traveling times of the photon are the same ($\Delta t_E = \Delta t_S = \Delta t_O$), but the Visions of Light are different, therefore, the light speeds are also different ($\mathbf{C_E} \neq \mathbf{C_S} \neq \mathbf{C_O}$).

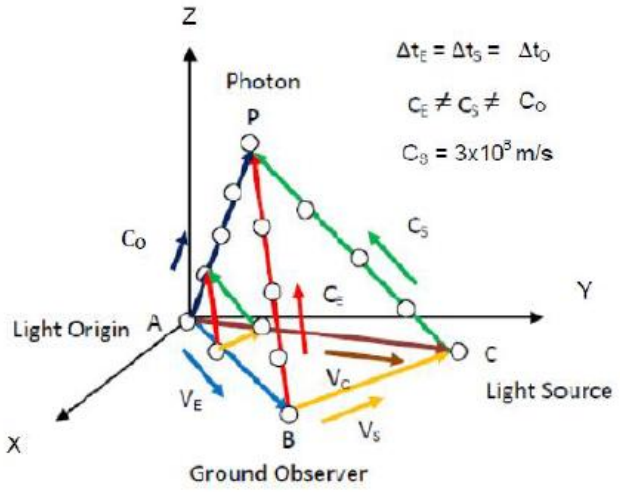

Fig. 3 Visions of Light of an emitted photon observed at the light origin (black line), ground (red line) and light source (green line) in Absolute Space System.

VI. Equation of Light Speed

When a photon emitted from a light source, it travels under two influences, ejection motion and inertia motion. In other words, the light speed observed by the observer at the observation point (C) is a vector summation of the moving speed of the photon away from the light source observed at the light source (C_S) (Absolute Light Speed 3 x 10^8 m/s) and the moving speed of the light source away from the observer observed at the observation point (V). This fact is named "Equation of Light Speed".

$$\mathbf{C = C_S + V}$$

VII. Light Speeds by Observations

The speed of light is calculated by the Vision of Light divided by the traveling time of a photon. Since different Visions of Light of a photon can be observed by observers of different moving speeds and directions, it is obvious that different light speeds in space can be observed by moving observers other than those at the light source. As shown in Fig. 3, in addition to the Absolute Light Speed C_S (3 x 10^8 m/s) observed at the light source, light speeds C_E and C_O can also be observed at ground and light origin. This is different from that of Einstein's Special Relativity, which claims that light speed in space is always constant, no matter the motions and locations of the light sources and observers.

Furthermore, if an observer moves at a speed as fast as the Absolute Light Speed, in a parallel direction to the light beam, then the light speed observed by the moving observer can be as small as zero. In other words, the photon is frozen or idles with respect to the observer.

Because,

$$\mathbf{C = C_S + V}$$
$$\mathbf{V = - C_S}$$

Therefore,

$$\mathbf{C = 0}$$

In addition, Einstein claimed that if he was running with a photon at light speed, he could still see the photon moving away from him at the light speed. It is impossible, unless he was running with the light source at a light speed away from the light origin.

Because,

$$\mathbf{C = C_S + V}$$
$$\mathbf{V = 0}$$

Therefore,

$$\mathbf{C = C_S}$$

VIII. Light Speeds in Inertia System

As shown in Fig. 4, the same Visions of Light (red line) can be observed at different positions in an Inertia System. Therefore, the light speeds observed in an inertia system should always be a constant, no matter where the observers are. However this constant speed can be different from the Absolute Light Speed (3 x 10^8 m/s) if it is observed in another Inertia System than that of the light source.

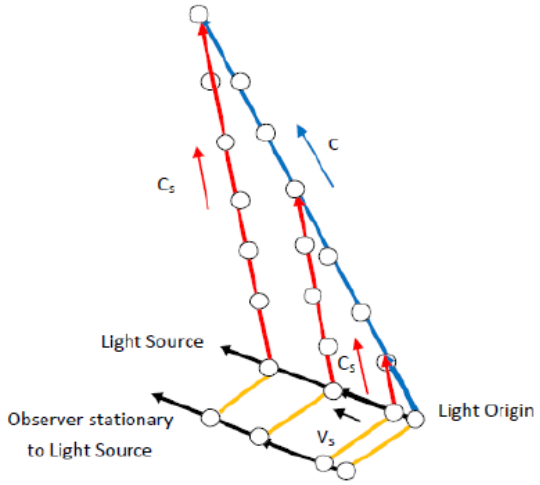

Fig. 4 Vision of Light (blue line) observed at light origin and the Vision of Light (red line) observed at the light source and those stationary to the light source.

IX. Light Speeds on Earth

$\mathbf{C_E}$ (light speed observed at ground) is the vector summation of $\mathbf{C_S}$ (light speed observed at the light source) and $\mathbf{V_S}$ (moving speed of the light source from ground).

$$\mathbf{C_E} = \mathbf{C_S} + \mathbf{V_S}$$

However, in reality, $\mathbf{V_S}$ the moving speed of the light source from ground is extremely small compared to $\mathbf{C_S}$ the Absolute Light Speed (3x 10^8 m/s). Therefore,

$$\mathbf{C_E} = \mathbf{C_S} + \mathbf{V_S} \approx \mathbf{C_S}$$

The light speed observed by the ground observer $\mathbf{C_E}$ is very close to the Absolute Light Speed $\mathbf{C_S}$.

X. Einstein's Special Relativity

It is postulated in Einstein's Special Relativity [4], that the light speed in space is always a constant, no matter the motions and positions of the light sources and observers. As a consequence, time on a moving object runs slower than that of one stationary to the observer known as "Velocity Time Dilation" [5]. But the light speed in fact is not always constant, it changes with the relative speeds and directions between the light source and the observers, Einstein's Special Relativity is false, as is the Velocity Time Dilation [1].

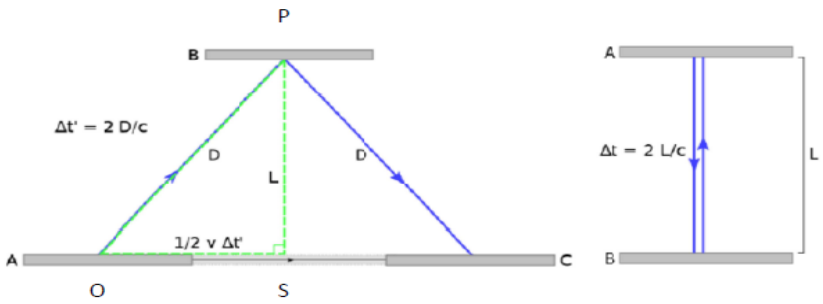

Fig. 5 Moving light clock and Velocity Time Dilation Theory.

In Einstein's Theory, it is assumed that light speed is always constant.

Because,

$C = C'$

$(\Delta t' \ C/2)^2 = (\Delta t \ C/2)^2 + (V \ \Delta t'/2)^2$

Therefore,

$$\Delta t' = (1-V^2/C^2)^{-1/2}\,\Delta t$$

Δt is smaller than $\Delta t'$, where Δt is the light travelling time measured at the light source and $\Delta t'$ is the light travelling time measured on ground (Velocity Time Dilation).

However, according to Vision of Light theory, light speed is not always constant. As shown in Fig. 5, OP is the Vision of Light observed on ground (reference point) and PS is the Vision of Light observed at the light source.

Because,

$C' = 2OP/\Delta t'$ & $C = 2PS/\Delta t$

$OP^2 = PS^2 + OS^2$

$\Delta t' = \Delta t$

$(C'\Delta t/2)^2 = (C\Delta t/2)^2 + (V\Delta t/2)^2$

Therefore,

$$C' = (C^2 + V^2)^{1/2}$$

The light speed observed on ground is $C' = (C^2 + V^2)^{1/2}$ which is different from that observed at light source $C = 3x10^8$ m/s.

XI. Conclusion

The vision of an object, in spite of observed directly at the observation point, can be constructed into a picture, by superimposing the images of the object and the observation point in each time frame during a period of time observed at a reference point, where the corresponding observation point and coordination system in each time frame are placed together completely matched and overlapped on top of the final observation point, and the relative position and direction between the object and the observation point in each time frame during the time period are maintained.

Similar to vision of object, Vision of Light, in spite of observed directly at the observation point can be constructed into a picture, by superimposing the images of the photon and the observation point in each time frame during a period of time observed at the light origin in the Absolute Space System, where the observation point and coordination system in each time frame are placed together completely matched and overlapped on top of the final observation point, and the relative position and direction between the photon and the observation point in each time frame are maintained as that observed at the light origin in the Absolute Space System. The speed of light is calculated by the Vision of Light divided by the traveling time of light measured by the observer at the observation point.

When a photon emitted from a light source, it travels under two influences, ejection motion and inertia motion. On one hand, photon travels at a constant Absolute Light Speed (3×10^8 m/s) in its trajectory because of the constant ejection force caused in the photon emission process; one the other hand, it is dragged into a direction and speed the same as that of the light source due to Photon Inertia Transformation. As a result, light speed is a vector summation of Absolute Light Speed and the speed of light source observed at the observation point.

Light speed in an inertia system is constant (unnecessarily 3×10^8 m/s) because the same Vision of Light can be observed at all stationary positions in the inertia system. However, oppose to Einstein's Special Relativity Theory that the light speed is always a constant (3×10^8 m/s) no matter the light sources and observers, light speed in fact changes with the observers at different moving speeds and directions. As a result, Einstein's Special Relativity and Velocity Time Dilation theories are false and time doesn't change with velocity at all.

References

[1]. Edward T. H. Wu. "Light Speed in Vacuum is not a Constant and Time Doesn't Change with Velocity–Discrepancies Between Relativities and Yangton & Yington Theory". American Journal of Modern Physics. Vol. 4, No. 6, 2015, pp. 367-373. doi: 10.11648/j.ajmp.20150406.12.

[2]. Edward T. H. Wu. "Mass, Momentum, Force and Energy of Photon and Subatomic Particles, and Mechanism of Constant Light Speed Based on Yangton & Yington Theory". American Journal of Modern Physics. Vol. 5, No. 4, 2016, pp. 45-50. doi: 10.11648/j.ajmp.20160504.11.

[3]. Edward T. H. Wu, Redshift Caused by Acceleration Doppler Effect and Hubble's Law Based on Wu's Spacetime Accelerating Shrinkage Theory, American Journal of Modern Physics. Vol. 6, No. 1, 2017, pp. 10-15. doi: 10.11648/j.ajmp.20170601.12.

[4]. Einstein A. (1916), Relativity: The Special and General Theory (Translation 1920), New York: H. Holt and Company.

[5]. Einstein, Albert (1920). "On the Idea of Time in Physics". Relativity: The Special and General Theory. Henri Holt. ISBN 1-58734-092-5. And also in sections 9–12.

Edward T. H. Wu. "Vision of Object, Vision of Light, Photon Inertia Transformation and Their Effects on Light Speed and Special Relativity." IOSR Journal of Applied Physics (IOSR-JAP) , vol. 9, no. 5, 2017, pp. 49–54.