

Introduction to the Theory of Despace

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“For the bubbles in the water, there is no water”. This is the basic concept of the Theory of Despace. The Theory of Despace states that the universe is filled up with “space”, and matter is the place in the universe without space. Based upon this postulation, the Theory of Despace created a new model of the basic particles to explain the forces in distance such as Gravitation, electric field and magnetic field. Based upon the model of the electric field in this theory, the Theory of Despace also created a new model of photon which composed of two of the particles – one halftton and one anti-halftton – to explain the wave-particle duality of light. Meanwhile, since the photon is composed of two particles which move in a course of a waveform. For the light speed with respect to the space, it’s considered as a wave to be limited to the light speed in that medium. For the drag effect of the space to the photon, it’s considered as a particle to become very small. The Theory of Despace also states that the planetary motion is caused by the space vortex. All the planet systems are free vortices. The speed of the space flow at the outer ring of the vortex is slower than which at the inner ring. When light beam comes from far away and reaches Earth, the vortex speed will vary from 0 to about the revolution speed of Earth around the sun. The light speed with respect to the space will remain constant as light is a wave in the space as its medium, and the direction of the light beam with respect to its source will also remain the same because the drag effect of the space to the photon will become 0 since the photon is a particle and the speed difference of the space flow is extremely small when the photon moves in the space. This solved the paradox between the phenomenon of stellar aberration and the MMX. The Theory of Despace should be the most comprehensible and reasonable one to explain the basic phenomena of our world.

1. Introduction

For human basic concept of space and matter, human beings believe that the space is empty and the matter is tangible. However, such an acknowledgement does not have any stand. I don’t think that the space is inexhaustible and without any boundary. Meanwhile, I don’t think that the space is infinite. If the space is just empty, then will the place outside of the finite universe also be empty? Then the finite universe will become infinite. This disproves the concept of the empty space.

With our conventional concept, it is too much difficult to explain the basic phenomena of our world. However, if we just simply reverse our conventional concept into a new one, all those problems are solved. Space contains, on the contrary, matter is empty of space, an empty place within the space.

Furthermore, though the attraction and repulsion of force in distance has been discovered and applied by human beings for thousands of years, but it is still a mystery to us till today. The reason is that we were not aware of its importance. I think we should find the reason for attraction and repulsion first before we can explain the forces between particles and magnetic poles.

Moreover, the stellar aberration [1] and Michelson-Morley experiment[2] is a well known paradox in Physics for more than a century. There is still no a theory or an argument can solve it. The reason is that we don’t even know what is light and what a photon is. Not to mention how to explain the wave-particle duality of light[3]. In this case, we need a new model and re-analyze the planetary motion to find a new answer.

2. The Basic Postulation of Space and Despace

Based on our traditional concepts, our world is formed by variety of substance. The place where no substance exists is called

as space. The space is empty and contains nothing. However, the space is different from Nihil. The space still possesses the property of dimensions, size and distance. The apparent difference between matter and space is that matter has mass but space doesn’t.

We know that the Gravitation upholds all the planetary systems. The Solar System is just a well known example. The gravitational acceleration cause by the sun to all the celestial objects has nothing to do with the mass of the objects. It only concerns with the distance of the object with respect to the gravitational center of the sun.

Therefore, we can take as everything no matter it has mass or not is being dragged towards the gravitational center of the sun. In this case, will Gravitation also take the same effect to space? If space will be dragged into the gravitational center of the sun, we have to ask “What is matter?” If the space is everywhere in the universe, does that mean the Gravitation of the sun which drags away the space is a breach of the space in the space? And this breach is just a place where matter very highly concentrated. Therefore, we have to make a postulation which is totally different from our traditional concepts. Matter is a hole of the space which contains no space.

According to above, we can redefine the universe and the formation of matter in the universe. I hereby simply introduce 2 things (there is actually only one thing in the world):

1. **Space.** The one which fills up the world. Or one may call it as Ether.
2. **Despace.** [4] The Matter. A hole in the space which contains no space.

As we all know that there is space everywhere. Even within the matter with the highest density, the atom that forms the mat-

ter only occupies a small part volume of the space where they are. However, does an atom need space? Is there any space where the atom exists? I hereby assume that atoms (the protons) do not need space. More exactly, the protons do not contain space in themselves. The holes in the space without space form the basic particles of matter. To make it simple, the Despace (the breach of space) is the matter. This is a new concept which is totally opposite to our traditional one.

3. The Flow of Space

If there is a Despace hole in the space which contains no "space" and the space of the whole universe is as a flowing current, the space will try to replenish the Despace hole spontaneously. The direction of the space flow inside the Despace hole does not depend on the space axes (XYZ axes), but depends on the time axis (T axis). While T axis is always orthogonal to any other XYZ axes.

Our world is moving towards the "Future", on the contrary, the flow of space can be taken as disappearing from the "Current" into the "Past". The "space" of our world (the Current) is flowing into the "Past" continuously. At the same time, the "Future" is also pouring our world with a huge volume of space continuously. This makes the Despace hole to vibrate periodically. Additionally, the Despace hole will act as a vortex. This makes the Despace hole to have the spin property.

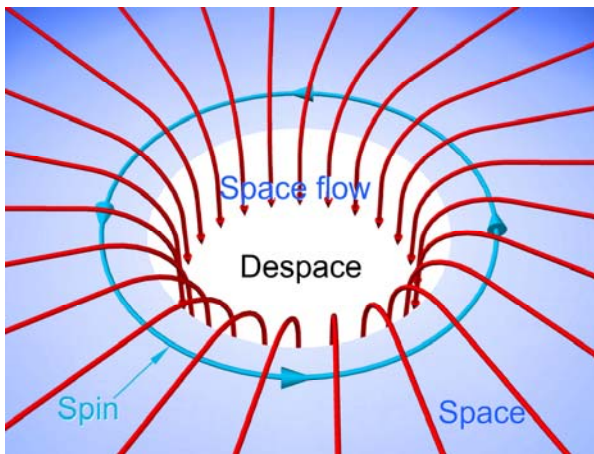


Fig. 1. The Despace Hole

While the space around the Despace hole vibrates periodically, it will make the space around the Despace to act like a balloon to distend and shrink, or to drag and push away the space around. Then the space around the Despace can be taken as a 4-dimensional waveform with a certain frequency - the **Particle Wave**.

4. The Basic Particles

4.1. Electron

The electron is a particle wave vibrates in time-space dimensions. When the "Future" is pouring the "Current" with space, it will push the space of the "Current" to move into the "Past". If the pushing force is not strong enough, the pushed space will rebound from the "Past" back into the "Current" or even into the "Future". This will make the electron to drag and push away the space around its vicinity.

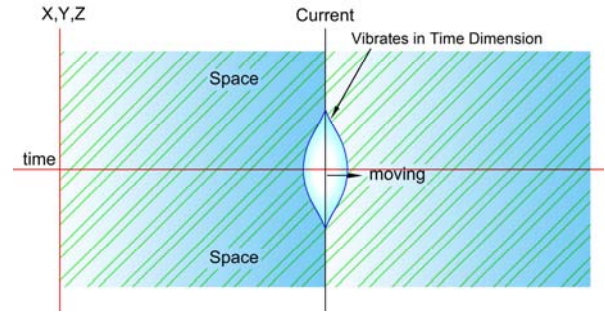


Fig. 2. Time-space vibration of an electron

The electron does not have a Despace hole at its center, which means the space will not be dragged and disappear into an electron. The space flow cause by an electron will be balanced to zero at a distance away from the electron in every wave cycle.

4.2. Neutrino

A neutrino is a very special particle. It could be a Despace hole without space vibration and no space flows through it.

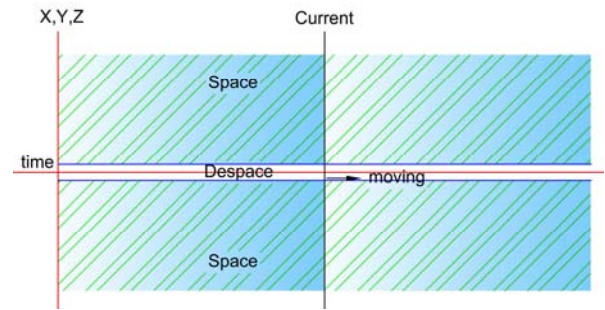


Fig. 3. Time-space vibration of a neutrino

4.3. Proton

The proton is a Despace hole that the space will flow through it and disappear into the "Past". And the edge of the Despace of a proton will also distend and shrink periodically which will push away and pull back its vicinity space periodically.

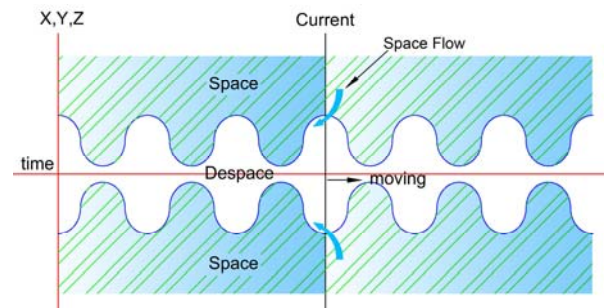


Fig. 4. Time-space vibration of a proton

The space flow cause by the vibration of a proton will become balanced to zero at a distance within every wave cycle as well. However, the space flow of the space being dragged into the "Past" is not balanced.

4.4. The Phase Difference between Proton and Electron

The time-space vibration of a particle can be described as a waveform. It should have particular amplitude, frequency and phase. The amplitude and frequency of the time-space vibration of a proton and an electron are almost all the same since they do

come from the same time-space drag and pushing of the universe. However, the phase difference of the time-space vibration between a proton and an electron is exactly 180°, which means they can counterbalance with each other.

4.5. Neutron

A neutron is a combination of a proton and an electron. It can be deemed as a proton and an electron are bounded together revolving around each other in a very short distance. The space vibration outside of a neutron in a certain distance will be almost neutralized.

5. Gravitation

5.1. Space Flow Caused by De-spacing

Since Earth is a huge gathering of atoms which contains the protons, the small holes of the space in the space. This can be simplified as a giant hole of the space in the space. And the space is flowing into the giant Despace hole and disappearing. Within the flowing of the space, all the substances which composed of atoms that drifting in the space will be dragged by the space flow and accelerated by the space drag even they are stationary with respect to the giant Despace hole.

Assume that there is a certain volume of the space ΔV vanishing caused by Earth continuously. As the space is vanishing into the core of Earth, the space outside of the vanished part will replenish the vanished space spontaneously. This means that the space surrounding the Earth will move towards the center of Earth by the space flow, which will drag all the objects drifting in the space to move towards the center of Earth. The speed of space flow caused by Earth can be described as below:

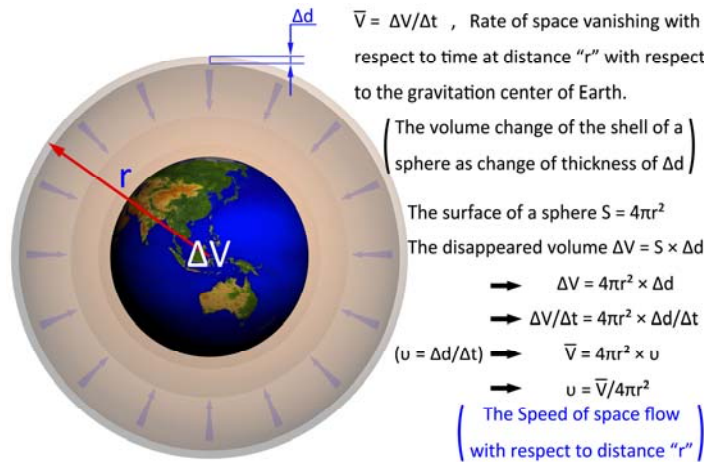


Fig. 5. Space flow by space disappearing into core of Earth

5.2. Drag Coefficient of Space Drag

Since all of the substances are composed of protons and electrons, the gravitational attraction to all of the substances can be simplified as gravitational attraction to protons and electrons. The space drag to protons and electrons can be described as a drag equation with a drag coefficient C_d . The acceleration caused by the space drag can be described as below:

$$F_d = m_p \times g = C_d \times \rho \times v^2 \times A \quad (1)$$

According to fluid dynamics. [5] [6]

m_p is the mass of the particle

g is the gravitational acceleration

ρ is the Density-Of-Space which is exactly the density of the particle

v is the speed of the particle with respect to the space flow

A is the cross-sectional area of the particle perpendicular to the direction of space flow

$$\Rightarrow g = \frac{C_d \times \rho \times v^2 \times A}{m_p} \quad (2)$$

$$\Rightarrow g = \frac{C_d \times \rho \times v \times (v \times \kappa_1) \times \frac{1}{\kappa_1} \times A}{m_p} \quad (3)$$

$\Delta d = v \times \kappa_1$, displacement of the particle is proportional to its velocity. κ_1 can also be taken as the time.

$$\Rightarrow g = \frac{C_d \times \rho \times v \times \Delta d \times A \times \frac{1}{\kappa_1}}{m_p} \quad (4)$$

$$\Rightarrow g = \frac{C_d \times \rho \times v \times (\Delta d \times A \times \kappa_2) \times \frac{1}{\kappa_2} \times \frac{1}{\kappa_1}}{m_p} \quad (5)$$

$V = \Delta d \times A \times \kappa_2$, the effective volume of the moving particle κ_1 & κ_2 is the effective factors

$$\Rightarrow g = \frac{C_d}{\kappa_1 \times \kappa_2} \times \frac{\rho \times V}{m_p} \times v = C_x \times \frac{\rho \times V}{\rho \times V} \times v \quad (6)$$

$$C_x = \frac{C_d}{\kappa_1 \times \kappa_2}, \text{ the simplified drag coefficient}$$

$$m_p = \rho \times V, \text{ mass} = \text{density} \times \text{volume}$$

$$\Rightarrow g = C_x \times v \quad (7)$$

Since all of the substances are composed of protons which are the Despace holes in the space. And the Despace holes would de-space (deleting the space) all the time and cause the space to flow. The flow of space will cause acceleration to the particles by space drag. This is the so called Gravitational Acceleration. And the planet which composed of protons will generate Gravitation consequently.

6. Electric Field

6.1. Distention and Shrinkage of Space

The phase difference of the time-space vibration between a proton and an electron is exactly 180°. As they are two similar waveforms with phase difference of 180°, they will have a destructive interference when they are placed together, which means the time-space vibration of them can be counterbalanced.

Basically, distention on space equals increase of distance, and shrinkage on space equals decrease of distance. In other words, the protons and the electrons will always push away and pull back their vicinity space periodically, this will increase and decrease the distance of the nearby particles with respect to the proton or the electron.

Although the forces of distention and shrinkage of space can be counterbalanced with each other, but the effects of distention and shrinkage of space to the space are not the same even their strength (Amplitude) is the same. As there is the Pressure-Of-Space (POS) within the space, when a particle is distending the space, the positive pressure or the strength of pushing away the space can be as great as possible. However, for the shrinkage of space of a particle, the maximum negative pressure of pulling the space cannot be greater than -POS with respect to the local POS of the space. This is the same with a compressor with respect to a vacuum generator in the general atmosphere. The pressure of the compressed air can be as high as possible regardless of the pressure of the atmosphere. However, the maximum negative pressure can only be the vacuum.

6.2. Attraction between Different Electric Properties

When two particles with above characteristics of distention and shrinkage of space but reverse to each other are placed together, which means both particles have 180° phase difference between them. We can denote the two particles as A and B.

Assume their phase is between 0° to 180°. In this case, when A is pushing away its vicinity space, and B is pulling back its vicinity space at the same time, if A and B are close enough, the space vibration between them will be counterbalanced. But the space at the outer side of A will push A towards B, and the space at the outer side of B may pull B towards its outer side a little. However, these two forces on A and B are not equal. The force of pushing is stronger than pulling. This will make A and B to get approaching. Meanwhile, this will also make the mass center of A and B to move rightwards a little bit.



Fig. 6. A is distending and B is shrinking

After a half cycle of the particle vibration, which means their phase is between 180° to 360°, the space vibration of A and B will be reversed. This means A is pulling back its vicinity space, and B is pushing away its vicinity space at the same time. Then the space vibration between A and B will still be counterbalanced, but the space at the outer side of B will push B towards A, and the space at the outer side of A may pull A towards its outer side a little. This will make A and B to get approaching, and also make the mass center of A and B to move leftwards a little bit.

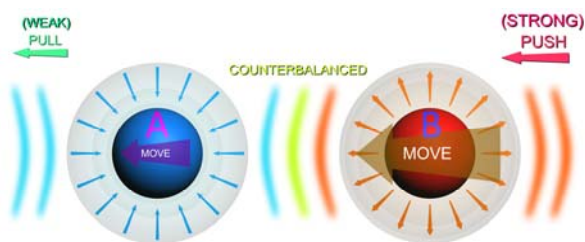


Fig. 7. A is shrinking and B is distending

The combination movement of A and B will then become an attraction force between them. Moreover, since there is always one of them pushing away the other one, they can never get real contact with each other.

Normally, A and B would be a proton and an electron, more exactly, a nucleus and several electrons. Since the mass of a nucleus is much greater than an electron, and the nucleus will spin continuously, this will cause the electrons to revolve around the nucleus in elliptical courses.

6.3. Repulsion of the Same Electric Property

When two particles with the same charges are placed together, which means both particles have no phase difference between them. Assume their phase is between 0° to 180°. In this case, when both particles are pushing away their vicinity space, the space increased between them will become twice of the space at their outer side, thus the two particles will push away each other.

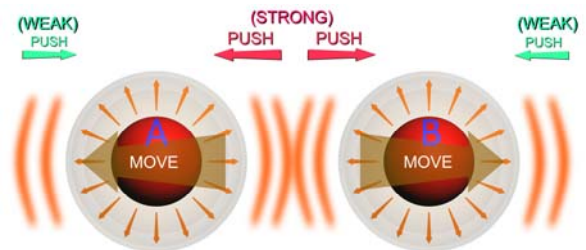


Fig. 8. A and B are both distending

When the phase of both particles is between 180° to 360°, the space vibration of them will be reversed, which means both particles are pulling back their vicinity space. This will cause both of them to get closer. However, the force of pulling at this stage is smaller than the force of pushing at last stage. The combination movement of both particles will then become a repulsion force between them.

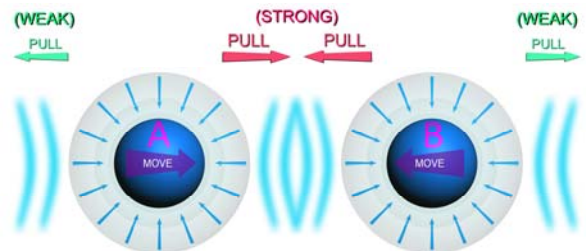


Fig. 9. A and B are both shrinking

6.4. Electrostatic Force to an Electrical Neutrality Object

When the number of protons and electrons are balanced in a substance or an atom, the space vibration of the particles which it contains will then be neutralized by itself with a certain distance away from it, and attain to a state of Electrical Neutrality. If the number of protons and electrons are not balanced in a substance or an atom, the space vibration of the particles which it contains can't be totally neutralized. The rest of the unbalanced electrical charges will then determine the charge property of the substance.

When an electrical neutrality object is placed next to an electrical charge, because the average space vibration of the electrical charge within every cycle is zero, and the frequency of the vibration is so high, though even the particles of the object might be

oscillated by this space vibration, but the whole object will always seem to be static.

However, if the electric field of the electrical charge is so strong and the object is placed close enough to the electric field, the electrons in the object will then be affected to be attracted or repulsed. This will cause the electrical neutrality object to lose electrical neutrality.

7. Magnetic Field

7.1. Orbital Movement vs Space Vibration of the Electron

We know that the magnetism must have something to do with the orbital movement of an electron around the nucleus. When an electron is moving on its orbit, it can be taken as the electron is moving back and forth when we look at it by side. At the same time, the electron is also vibrating its vicinity space spherically.

The orbital movement of the electron has a fixed period τ , and the space vibration of the electron also has a fixed period ϕ . If both periods relate to the electron have a special relationship ($\tau = 2n \times \phi$, $n \in \mathbb{N}$), and the revolution speed of the electrons reaches a certain level, the electron will generate the magnetic field.

We will consider the condition of $\tau = 2\phi$, two of space vibration cycle in one revolution cycle of an electron around the nucleus in the following. This means there will be 180° phase change of the space vibration in every quarter of the revolution course of the electron around its nucleus.

When an electron is moving leftward in the 1st quarter of the revolution course and it's also distending its vicinity space with the phase between $0 \sim 180^\circ$, then the space increased at the left side of the electron will be twice or more than which at the right side. The space vibration caused by the electron can be taken as the space is being pushing leftward.

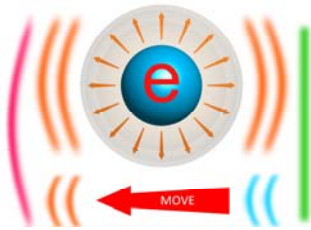


Fig. 10. Orbital movement 1st quarter, electron distending

After the electron passes into the 2nd quarter of the revolution course, the phase angle of the electron particle wave also passes over 180° . That means the electron is starting to shrink its vicinity space. Then the space decreased at the right side of the electron will be twice or more than which at the left side. The space vibration caused by the electron can be taken as the space is being pulling leftward.

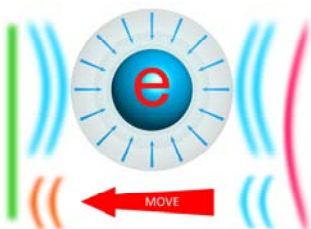


Fig. 11. Orbital movement 2nd quarter, electron shrinking

Similarly, for 3rd and 4th quarter of the revolution course of the electron, the situation is all the same except the direction should be changed to rightward.

Combine the 4 stages of the space vibration as below. As a result, the space will vibrate back and forth alternately by the orbital movement of the electron. And the average of space movement of every cycle will be zero.

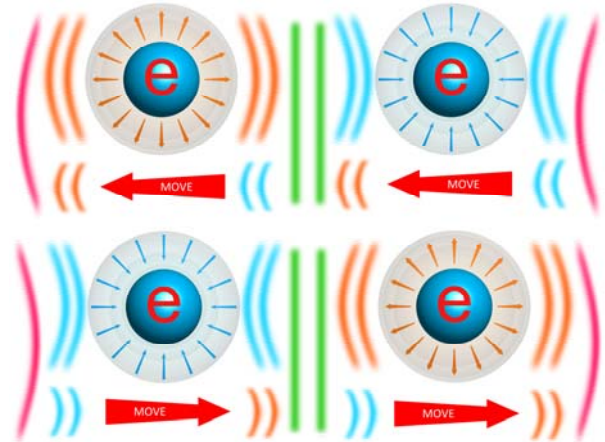


Fig. 12. Combined space vibration with $\tau = 2\phi$

7.2. Magnetic Field Generated by Space Vibration

When a material contains atoms with electrons moving in their orbits, most of the space vibration cause by the electrons movement could be counterbalanced. If the space vibration after self counterbalanced of electrons in an atom becomes alternately vibrating in one direction, and the other atoms also vibrate the space in the same direction synchronously. We can take as this material is vibrating the space alternately in one direction.

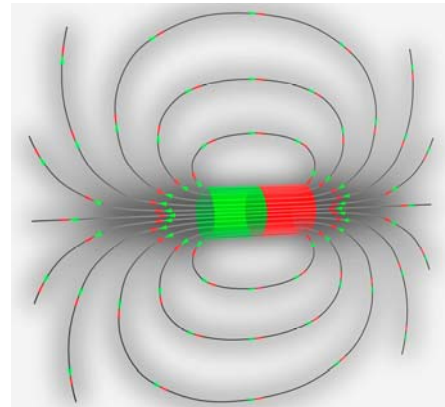


Fig. 13. Magnetic field caused by space vibration

Thus the material will generate a magnetic field which is an alternate vibration of the space. And the magnetic line of force will be bended when it leads outside of the material. That's because the space increased at one direction will try to fill the space decreased at the reverse direction.

Since it's vibrating so fast, you would not be able to sense about it. And the average of the space vibration will always be zero. A non-magnetic material will seem not be affected by it.

7.3. Reaction between Magnetic Fields

If we place two of magnets close together in series, if the magnetic poles of them are different in the middle of them, the

space vibration between them will be neutralized, and the outer side of each other magnet will push one towards another alternately. This will become an average attraction force of the magnets. (Please refer to Part 6.2 for the same reason).

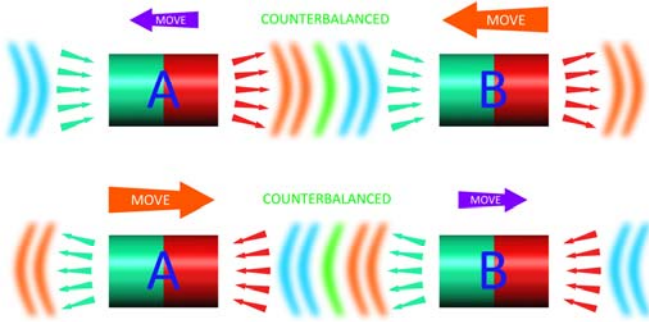


Fig. 14. Attraction of magnetic field

If the magnets are placed in the opposite way, that means the magnetic poles in the middle of the two magnets are the same, then the space vibration between them will pushing them away from each other when they are increasing space towards the middle of them.

Though the magnets will try to pull back each other after pushing away, but the force of pulling back is much smaller. This will become an average repulsion force of the magnets. (Please refer to Part 6.3 for the same reason).

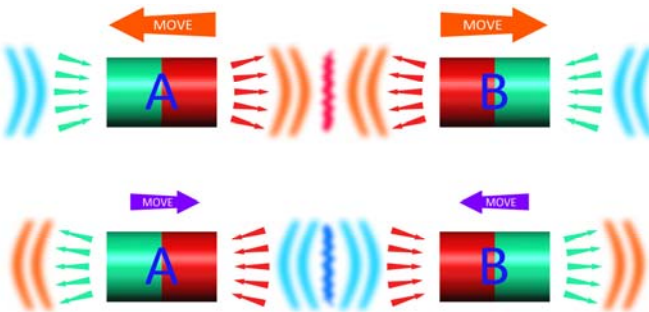


Fig. 15. Repulsion of magnetic field

7.4. Magnetic Poles

The magnetic pole of Geomagnetic is only a reference for the other magnetisms. The magnetisms may not have to be truly synchronized to the Geomagnetic. We can only compare them by the force of attraction or repulsion. So there is not actually a mono-direction of any pole but an alternate one.

Meanwhile, if the magnetic force is a force one way out, it should affect everything. If the direction of the magnetic force is a mono-direction, there should be three different results when we place 2 magnetisms in series as below:

- A) Repulsion : M → ← M
- B) Attraction : M ← → M
- C) Neutralized : M ← ← M or M → → M

Obviously, this contravenes the fact.

8. Photon and Halfton

8.1. The Halfton

A photon is not “A Particle”. A photon is actually composed of two of particles, a halfton and an Anti-halfton. The anti-halfton

is an anti-particle of the halfton. The phase difference of the time-space vibration between a halfton and an anti-halfton is 180°. However, there is no absolute halfton and anti-halfton, the halfton and the anti-halfton are all the same except for the phase of the time-space vibration. Any two of halftons with phase difference of 180° can form a pair of a halfton and an anti-halfton which forms a photon.

The halfton and the electron are the same things. They are the same time-space vibration. However, the phase difference of the time-space vibration of a halfton with respect to an electron can vary from 0 to 360°. The halftons exist in the atoms, they are many. They revolve around the nucleus of an atom just like the electrons. The numbers of the halftons and the anti-halftons are equal and balanced in an atom. They do not affect the weight, property and charge of the atom.

8.2. Emission of a Photon

We can take a halfton and an anti-halfton as an electron and a positron. The electrostatic force between a halfton and an anti-halfton is all the same with which of an electron and a positron (please refer to Part 6.2).

When a halfton and an anti-halfton are attracted by each other and getting closer to each other, they will eventually become to revolve around their mass center. They will accelerate while their revolution orbit is getting smaller. However, with increase of the revolution speed, the revolution orbit will become larger consequently. This will eventually attain to a balance state when their frequency of time-space vibration complies with their revolution orbit.

While the halfton and the anti-halfton are revolving around their mass center, the halfton and the anti-halfton are also vibrating their vicinity space. When their duty cycle of revolution and time-space vibration are equal, the halfton and the anti-halfton revolving around their mass center can be displayed as below picture.

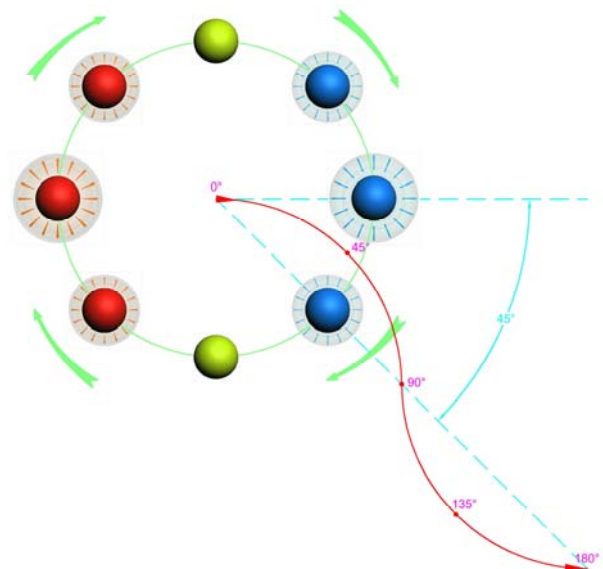


Fig. 16. Moving course of the mass center of a photon

For the time-space vibration, when the halfton is at the maximum level of the space shrinkage, the anti-halfton is exactly at the maximum level of the space distension. If we place the half-

ton at the maximum level of the space shrinkage at the right quadrant position of their revolution orbit, the anti-halfton at the maximum level of the space distension should be at the left quadrant position. Since they are revolving around the mass center and also vibrating the space with the same frequency, the halfton will be replaced by the anti-halfton, and the anti-halfton will be replaced by the halfton for every half of the duty cycle. The particle shrinking the space will always appear at the right side, and the particle distending the space will always appear at the left side.

The mass center will be vibrated by the electrostatic force of the halfton and the anti-halfton back and forth if they do not revolve around. However, along with their revolution around the mass center, the mass center will always be vibrated rightwards in a sine wave oscillation, and vibrates one duty cycle within per half cycle of the revolution of the halfton and the anti-halfton.

This oscillation will happen within every half cycle (180°) of the revolution recurrently. The photon will always move rightwards during every cycle, and be accelerated and decelerate vertically. This will cause the photon to emit at an angle of less than 45° in a sine waveform.

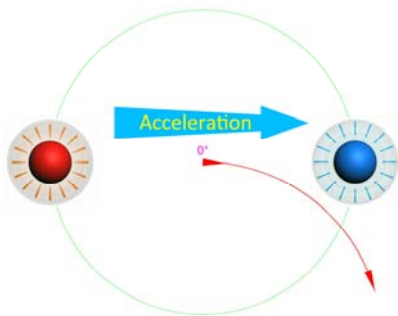


Fig. 17. 0° phase of revolution of halftons

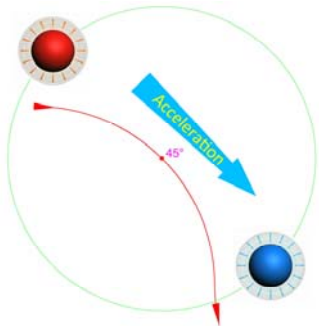


Fig. 18. 45° phase of revolution of halftons

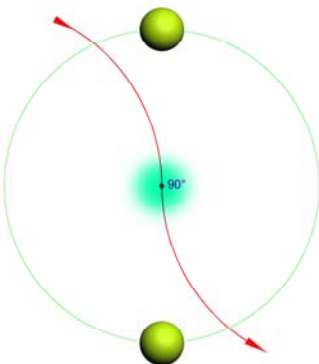


Fig. 19. 90° phase of revolution of halftons

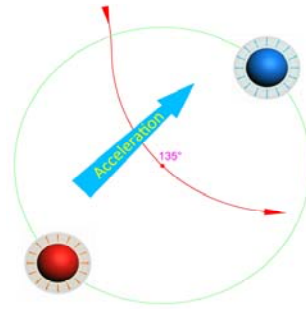


Fig. 20. 135° phase of revolution of halftons

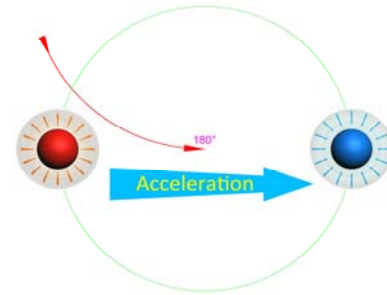


Fig. 21. 180° phase of revolution of halftons

8.3. Propagation of Light Wave

For a transverse wave, it is the whole waveform which moves in the medium as demonstrated below.

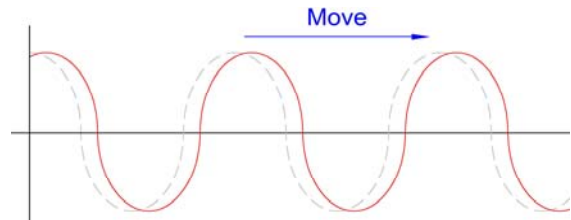


Fig. 22. How a transverse wave moves

For the photons, it is the individual photon which moves in the course as demonstrated below.

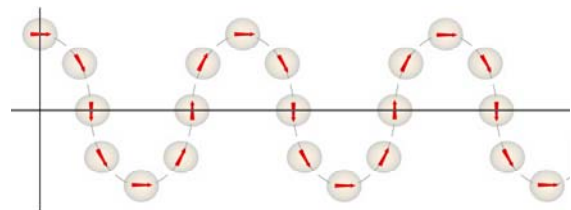


Fig. 23. How the photons move

The photons are not continuous as a wave though even they are positioned very closely. They are all separated as individual particles. One photon has nothing to do with the other photons before or after themselves. The reason is that a photon is not a waveform, but a particle(s) moves in a course of a waveform.

9. Light Speed and Aberration

9.1. Experiment of Light Aberration

If light is a kind of waveform, the velocity of light should have nothing to do with its source. Thus, if we fix a light beam and a target on a system horizontally on Earth, there will be an aberration of the projection when we rotate the system horizon-

tally. We can use simple equipment to construct this experiment as following:

- 1) A rigid bar of 6 meters long and a mark-place on it.
- 2) A commercial LED pointer.
- 3) A pen and a note paper.

At 12AM or 12PM, place the bar north-to-south. Fix the note paper on the mark-place at one end (north end) of the rigid bar. Then fix the LED pointer on the other end (south end) and let it project right on the note paper. The LED light beam will emit from south to north. Record or mark the projection position.

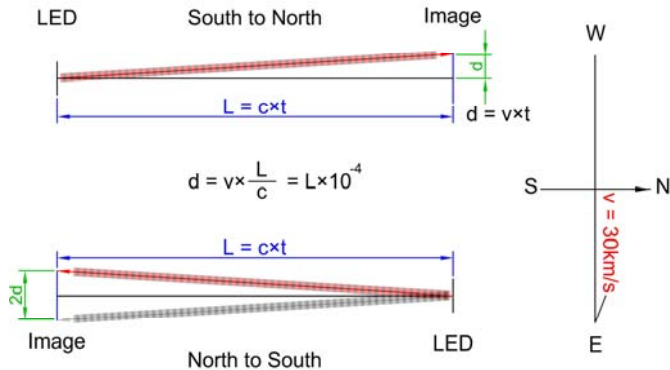


Fig. 24. Experiment of light aberration

Rotate the rigid bar for 180° horizontally. Let the LED light emit from north to south. Check and compare the projection position of LED light beam with the one previously marked. For $L = 6$ m

$$2d = 2L \times 10^{-4} = 1.2 \times 10^{-3} \text{ m} = 1.2 \text{ mm}$$

The expected shift of the projection should be more than 1mm at noon or midnight. However, we did not get such result.

9.2. Examples to Question on Aberration of Light

A. Global Positioning System (GPS)

The Global Positioning System (GPS) is the only fully functional Global Navigation Satellite System (GNSS). The GPS uses a constellation of between 24 and 32 Medium Earth Orbit satellites that transmit precise electromagnetic wave signals, which enable GPS receivers to determine their current location, the time, and their velocity (including direction). [7]

The GPS satellite orbits Earth at an altitude of approximately 20,200 kilometers. The GPS provides an accuracy of about 10 m or better in positioning. While as the GPS satellite transmitting electromagnetic wave signal to ground receiver, we have to consider several effects and error during transmitting to correct the positioning. However, the effect of aberration of light is omitted and seems to be unnecessary. Since the orbital motion of Earth around the Sun has a speed of about 30 km/s, the time for the signal transmitted from the GPS satellite to the receiver will be about 0.1 sec. Thus the horizontal distance error could be kilometers for the same receiver at different time (i.e. $v = 0$ at 6AM and $v = 30$ km/s at 12AM), and the present high-precision GPS would be entirely impossible.

B. CDs and DVDs

CDs and DVDs are the more practical examples to question of the light aberration. The width of the data tracks on a CD or DVD disc is less than 0.5 μm . [8][9] While the laser beam travels back

and forth between the laser head and the disc surface, the aberration of light can be calculated as below:

$$\Rightarrow 2d = 2L \frac{v}{c} \quad (\text{where } 2L = 1 \text{ cm} = 10^{-2} \text{ m}) \quad (8)$$

$$\Rightarrow 2d = 10^{-2} \times 10^{-4} = 1 \mu\text{m}$$

Thus, our CDs and DVDs will not work all day long, since the velocity direction of the CD and DVD players with respect to the laser beam can vary freely in all directions.

9.3. The Velocity of Earth in the Universe

The revolution velocity of Earth around the sun is about 30km/s. And the revolution velocity of the sun around the Galaxy is about 220km/s. [10] This means that the relative velocity of the Earth with respect to the Galaxy could be about 250km/s. Even if we do not consider the revolution velocity of the Galaxy around the LG (Local Group) [11] or the LG around the LS (Local Supercluster), [12] the relative velocity of the Earth with respect to the Galaxy will make the light-speed of the stars we detect to have maximum ± 250 km/s difference at different time and different position.

This has not yet taking consideration of the revolution velocity of the Galaxy around the LG, the revolution velocity of the LG around the LS, and the revolution velocity of the LS around the universe. In other words, the actual relative velocity of Earth with respect to the universe could possibly be very high (may even higher than light speed).

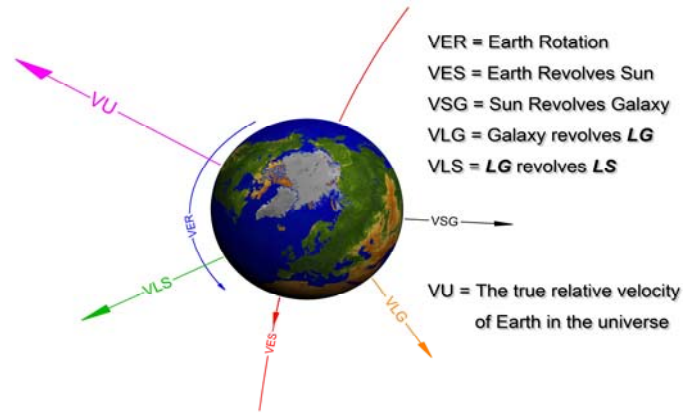


Fig. 25. Relative velocity of Earth with respect to each system

Thus the speed change in the Michelson-Morley experiment could never be the revolution velocity of Earth around the sun. It must be much greater than 30 km/s.

9.4. The Relative Velocity of Light with Respect to Its Source

Since the halftons are carried by the atoms before they emit as photons, though the halftons revolve around the nucleus in almost light speed, however the mean relative velocity of the mass center of the halftons with respect to the nucleus is always zero. Thus, before a photon emits, the mean velocity of the halftons equals to its carrier's velocity. Meanwhile, at the instant of the formation of a photon, the photon will move in the speed of light in its medium. It won't need the time to accelerate.

The relative velocity of light with respect to the space can be described as below:

$$\vec{c}' = \vec{c} + \vec{v}_m$$

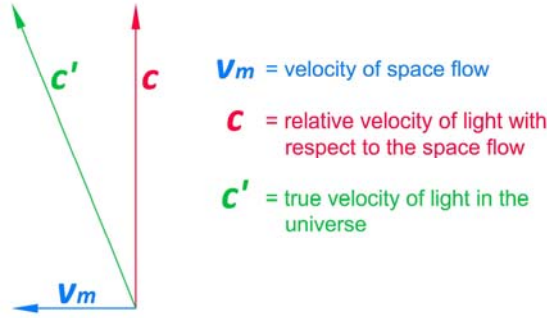


Fig. 26. The velocity of light with respect to space and universe

However, if the carrier of the halftons has a relative velocity with respect to the space, which means the halftons will also have the same relative velocity with respect to the space. In this case, at the instant of the formation of a photon, the emitted photon will also have the same component of the relative velocity of its original carrier with respect to the space.

$$\vec{\hat{c}} = \vec{c} + \vec{v}_s + \vec{v}_m$$

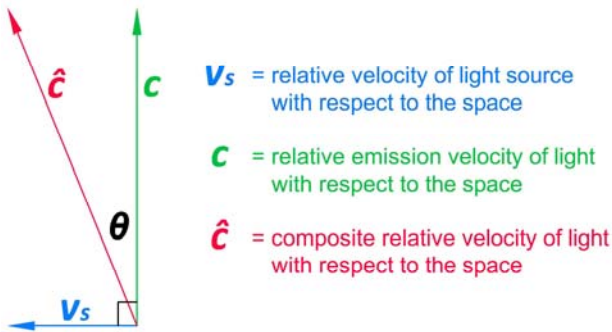


Fig. 27. The relative velocity of light with respect to its source

Where the space flow can be taken as stationary ($\vec{v}_m = 0$) to simplify our demonstration. Thus $\vec{\hat{c}} = \vec{c} + \vec{v}_s$.

This actually affects the direction of the light propagation if \vec{v}_s is not parallel to \vec{c} .

The speed of light is a result of the balance of the space vibration and the space drag. For the photons propagate in the space for a very long distance, the speed of light will eventually return to light speed in vacuum slowly. This can be described as below:

$$\vec{\hat{c}} = \vec{c} + \vec{v}_s \cos \theta, \quad \text{where } \cos \theta = \frac{|\vec{c}|}{|\vec{c} + \vec{v}_s|}$$

Thus, $|\vec{\hat{c}}| = |\vec{c}|$

10. Gravitational Space Vortex

10.1. Gravitation and Planetary Motion

We can describe the gravitational acceleration caused by the sun in the planetary motion as following:

- 1) The centripetal acceleration (gravitational acceleration) caused by the sun for all the objects in the Solar System can be described as

$$a = \frac{GM}{r^2} \tag{9}$$

- 2) When a celestial object orbits around the sun in a circular motion, its centripetal acceleration can be simplified as

$$a = \frac{v^2}{r} \tag{10}$$

Combine (1) and (2)

$$\Rightarrow v = \sqrt{\frac{GM}{r}} \tag{11}$$

Where G is the gravitational constant; M is mass of the sun; r is the distance between the object and the sun; v is the speed of the object traveling in the circle and also known as the revolution velocity around the sun.

This can be taken as everything including the space (no matter it has mass or not) is circling around the sun in a speed relative to its position with respect to the gravitation center of the sun. In this case, we can imagine that the space is flowing around the sun as a free vortex.

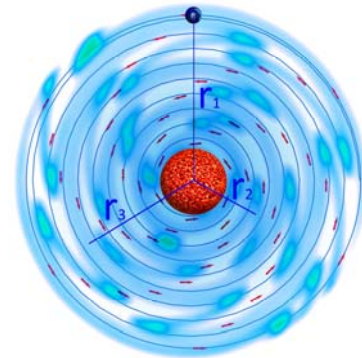


Fig. 28. Gravitational vortex of the Solar System

As Earth revolving around the sun in circular motion, the acceleration of the vortex on Earth is zero. Therefore, the relative velocity of Earth with respect to the space flow is zero. Meanwhile, the relative velocity of light with respect to its medium (space) is c . Thus, the light speed with respect to Earth is c as well.

10.2. Starlight Aberration and Space Flow

For the starlight comes from the outer space into the Solar System and approaching towards the sun or Earth, the every step of the photon which it makes for its propagation with respect to the speed change of the space flow can be simplified as below pictures.

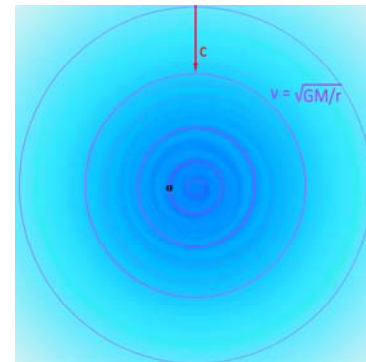


Fig. 29. Starlight from Outer Space into the Solar System

If we magnify to see a photon as stationary, the relative velocity of the space flow with respect to the photon will be a little different ahead and astern of the photon. The difference of relative velocity Δv is very small and almost zero since the photon is extremely small.

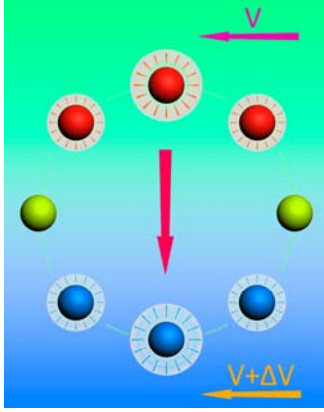


Fig. 30. Speed Difference vs Movement of Photon

When a photon moves in the space, the drag effect of the space to the photon is considered as it is a particle drifting the space. However, as far as the propagation speed of the photon is concerned, the photon is considered as it is a kind of waveform propagates in the space.

The space flow may cause the drag effect to the photon. However, because the drag coefficient is very small and the difference of space flow is also very small, this will result in a zero-drag of the space to the photon. In this case, the flow of the space will not take any effect on the propagation of the photon.

The acceleration caused by the space flow to the photon can be described as:

$$a = C_x \times \Delta v \quad (12)$$

Note that there will not be any drag effect if the speed of space flow is invariant. The acceleration only happens when the photon passing through different space flow.

The speed increase v_i caused by the acceleration:

$$v_i = a \times \Delta t = C_x \times \Delta v \times \Delta t \quad (13)$$

For the photon is propagating in light speed c , $\Delta t = \frac{\Delta r}{c}$,

$v = V_E = \sqrt{\frac{GM}{R}}$ when the photon reached Earth.

$$= C_x \left(\sqrt{\frac{GM}{R+n\Delta r}} - \sqrt{\frac{GM}{R+(n+1)\Delta r}} \right) \frac{\Delta r}{c}, n \in \mathbb{Z} \geq 0 \quad (14)$$

$$= \frac{C_x \sqrt{GM}}{c} \left(\frac{1}{\sqrt{R+n\Delta r}} - \frac{1}{\sqrt{R+(n+1)\Delta r}} \right) \Delta r \quad (15)$$

For a photon moves from an infinite distance and reached Earth or reversely, the total speed increase:

$$v_{total} = \sum_{n=0}^{\infty} \lim_{\Delta r \rightarrow \lambda} \frac{C_x \sqrt{GM}}{c} \left(\frac{1}{\sqrt{R+n\Delta r}} - \frac{1}{\sqrt{R+(n+1)\Delta r}} \right) \Delta r \quad (16)$$

The average distance between the two halftons of the photon equals to the radius of the photon, which equals to the wave length of the light beam. Thus $\lim \Delta r = \lambda$.

$$\Rightarrow v_{total} = \frac{C_x \sqrt{GM}}{c} \sum_{n=0}^{\infty} \left(\frac{1}{\sqrt{R+n\lambda}} - \frac{1}{\sqrt{R+(n+1)\lambda}} \right) \lambda \quad (17)$$

$$= \frac{C_x \sqrt{GM} \lambda}{c} \left[\left(\frac{1}{\sqrt{R+0\lambda}} - \frac{1}{\sqrt{R+1\lambda}} \right) + \left(\frac{1}{\sqrt{R+1\lambda}} - \frac{1}{\sqrt{R+2\lambda}} \right) + \left(\frac{1}{\sqrt{R+2\lambda}} - \frac{1}{\sqrt{R+3\lambda}} \right) + \dots + \left(\dots - \frac{1}{\sqrt{R+\infty\lambda}} \right) \right] \quad (18)$$

$$= \frac{C_x \sqrt{GM} \lambda}{c} \left[\left(\frac{1}{\sqrt{R+0\lambda}} - \frac{1}{\sqrt{R+\infty\lambda}} \right) \right] \quad (19)$$

$$= \frac{C_x \sqrt{GM} \lambda}{c} \left[\left(\frac{1}{\sqrt{R}} - 0 \right) \right] \quad (20)$$

$$= \frac{C_x \sqrt{GM} \lambda}{c \sqrt{R}} = \frac{C_x \lambda}{c} \sqrt{\frac{GM}{R}} = \frac{C_x \lambda}{c} V_E \quad (21)$$

$$\therefore C_x \leq 1$$

$$\therefore \frac{C_x \lambda}{c} V_E \ll V_E$$

$V_E = \sqrt{\frac{GM}{R}}$ = the revolution speed of Earth around the sun.

Thus, when a photon moves in the space with small variant velocity of space flow, the moving direction of the photon in the universe will not be affected by the flow of the space since the difference of the space flow is extremely small. And the propagation speed of the photon with respect to the space will always be invariant as the light speed in that medium.

As a result, this will change the relative velocity of light with respect to the space flow. That is to say, the starlight will remain its propagation speed as constant c but change its propagation direction with respect to the flow of the space.

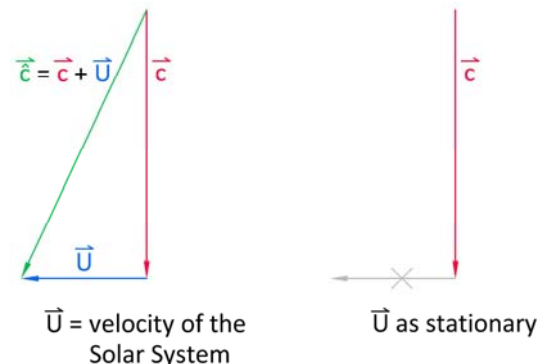


Fig. 31. Starlight before entering the Solar System

For example, before the starlight enters the Solar System, the velocity of starlight with respect to the Solar System is c , and it's perpendicular to the velocity of the Solar System in the universe. In this case, if we take the Solar System as stationary, the direction of the starlight will still be perpendicular with respect to the Solar System. And the relative speed of light with respect to the space is still constant c .

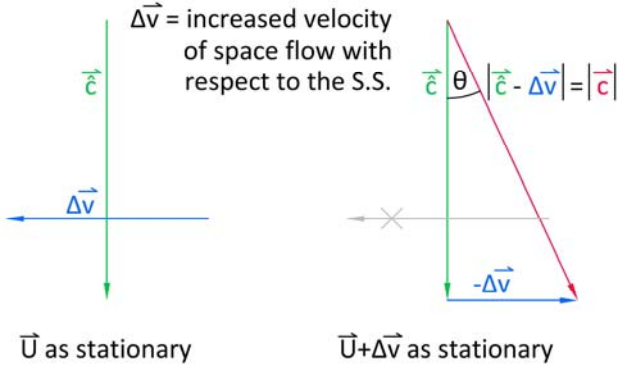


Fig. 32. Starlight after entering the Solar System

After the starlight enters the Solar System, the velocity of the space flow will start to change while as the direction of the starlight will remain the same. In this case, if we take the local flow of the space as stationary, the starlight will then have an extra component of velocity which is opposite to the flow of space. Thus, the starlight will become tilted. However, the relative speed of the starlight with respect to the flow of space will remain as light speed in that medium. And the inclination angle

$$\theta = \arcsin\left(\frac{\Delta v}{c}\right) \quad (22)$$

This is actually what we call Stellar Aberration.

10.3. Spiral Ether Model

According to the phenomena of the planetary motion and the astronomical observation, the Solar System, the Galaxy, and the whole universe are spirals. In this case, we should modify the "Stationary Ether Model" into the "Spiral Ether Model" instead.

It was said that if Earth moves in the stationary Ether, there will be some kind of friction between Earth and Ether, and will finally slow down the velocity of Earth revolving around the sun. In the case of an object in a water vortex, the object with respect to the water at its vicinity is static. It is the water which actually moves that drags the object to drift around the vortex center. The gravitational vortex is quite similar to the water vortex. We can take the gravitational field of the Solar System as a giant vortex, and the planets are small vortices in the giant vortex, and our

moon and those satellites of other planets are smaller vortices. What flows within the vortices is the space.

11. Conclusion

If the space is all empty, if matter is composed of many kinds of particles, then the basic components of our world should be very complex. However, if there is a truly basic rule of the world. This rule would be very very simple. And how simple this rule is should be the simplest one in our world. Thus, the basic components of our world should be very simple as well. Simple is the nature of the world. A simple thing would not be constructed from complex components. The Theory of Despace describes the world with the simplest model which no other model would be simpler than it. Our world requires only one thing to construct, the space. All the substances, energy, movement, relationships and even time, are based on it. How simple, how pure!

References

- [1] Hirschfeld, Alan (2001). Parallax:The Race to Measure the Cosmos. New York, New York: Henry Holt. ISBN 0-8050-7133-4.
- [2] Michelson, Albert Abraham (1881), "The Relative Motion of the Earth and the Luminiferous Ether", American Journal of Science 22: 120-129
- [3] http://en.wikipedia.org/wiki/Wave%20%80%93particle_duality
- [4] Reelin Show (2009), The Theory of Despace, ISBN: 1448679753.
- [5] # ^ McCormick, Barnes W. (1979), Aerodynamics, Aeronautics, and Flight Mechanics, p.24, John Wiley & Sons, Inc., New York ISBN 0-471-03032-5.
- [6] <http://wright.nasa.gov/airplane/drageq.html>
- [7] http://en.wikipedia.org/wiki/Global_Positioning_System
- [8] http://en.wikipedia.org/wiki/Compact_Disc
- [9] DVD FLLC (2009-02) DVD Book Construction - list of all available DVD Books, Retrieved on 2009-07-24, http://www.dvdfllc.co.jp/format/f_bconst.html
- [10] Leong, Stacy (2002). "Period of the Sun's Orbit around the Galaxy (Cosmic Year)". The Physics Factbook <http://hypertextbook.com/facts/2002/StacyLeong.shtml>. Retrieved 2007-04-02
- [11] Mario Mateo, 1998. Dwarf Galaxies of the Local Group. Annual Review of Astronomy and Astrophysics, Volume 36, 1998, pp. 435-506 [ADS: 1998ARA&A..36..435M]. http://nedwww.ipac.caltech.edu/level5/March01/Mateo/Mateo_contents.html
- [12] R. B. Tully (1982). "The Local Supercluster". Astrophysical Journal 257: 389-422. doi:10.1086/159999. <http://adsabs.harvard.edu/abs/1982ApJ...257..389T>