

Graviton Bombardment, Static and Dynamic Graviton Fluxes and Their Effects on Space, Time, Light and Properties of Objects and Events

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[Abstract]

According Yangton and Yington Theory, Wu's Unit Length and Wu's Unit Time of Wu's Pairs (building blocks of the universe) can be affected by particle bombardment, especially the graviton bombardment. Also, all the properties of an object or event are dependent on Wu's Unit Length (diameter) and Wu's Unit Time (period) of Wu's Pairs in the subatomic particles of the object or event. Therefore, the dimension, duration, velocity and acceleration of an object or event, as well as wavelength, light speed and time dilation can all be affected by the intensity of graviton bombardment which is the summation of Static Graviton Flux ($i = pM/r^2$) generated by graviton radiations from parent object and Effective Dynamic Graviton Flux ($i_d = kp V\sin\Theta M/r^2$) generated by the interaction between Static Graviton Flux and the moving target object.

Under both thermal equilibrium at constant temperature and subatomic equilibrium at constant gravitational field (stabilized graviton bombardment), according to Principle of Equilibrium, all Wu's Pairs in the subatomic particles of an object or event have fixed Wu's Unit Length and Wu's Unit Time, as is all the properties of an object or event. In addition, according to Wu's Spacetime Shrinkage Theory, an object or event at a massive graviton bombardment (or at a large gravitational field in a stationary single parent object system) should have a large Wu's Unit Length and Wu's Unit Time, as well as a big dimension and duration, also a large wave length, small light speed and slow time clock than that at a less intensive graviton bombardment. These correlations can be used successfully in the interpretation of many cosmological phenomena such as Gravitational Redshift, Deflection of Light, Perihelion Precession of Mercury and Time Dilation, etc.

[Keywords]

Gravity, Yangton and Yington, Wu's Pairs, Wu's Spacetime Shrinkage Theory, Principle of Parallelism, Spacetime, Relativity, Light Speed, Redshift, Gravitational Redshift, Cosmological Redshift, Aether Inflow, Aether Wind, Universal Gravitation, Static Graviton Flux, Dynamic Graviton Flux, Deflection of Light, Perihelion Precession of Mercury and Time Dilation.

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I. Introduction

According to Yangton and Yington Theory, Wu's Unit Length and Wu's Unit Time of Wu's Pairs (building blocks of the universe) can be affected by gravitational field. Also, all the properties of an object or event are dependent on Wu's Unit Length (diameter) and Wu's Unit Time (period) of Wu's Pairs in the subatomic particles of the object or event. Therefore, the dimension, duration, velocity and acceleration of an object or event, as well as wavelength, light speed and time dilation can all be affected by gravitational field.

Furthermore, under both thermal equilibrium at constant temperature and subatomic equilibrium at constant gravitational field, according to Principle of Equilibrium, all Wu's Pairs in the subatomic particles of an object or event have fixed Wu's Unit Length and Wu's Unit Time, as is all the properties of an object or event. In addition, according to Wu's Spacetime Shrinkage Theory, an object or event at a large gravitational field should have a large Wu's Unit Length and Wu's Unit Time, as well as a big dimension and duration, also a large wave length, small light speed and slow time clock than that at a small gravitational field. These correlations can be used successfully in the interpretation of many cosmological phenomena such as Gravitational Redshift, Deflection of Light, Perihelion Precession of Mercury and Time Dilation, etc.

However, there is no explanation of why gravitational field can affect Wu's Pairs and change the properties of an object or event, neither what Aether Inflow nor Aether Wind are made of and how they can affect gravitational field. In this paper, Static Graviton Flux and Dynamic Graviton Flux are proposed with a detailed analysis so as to give a sound answer to the above questions.

II. Yangton and Yington Theory

Yangton and Yington Theory [1] is a hypothetical theory based on a superfine circulating Yangton and Yington Antimatter particle pair with inter-attractive Force of Creation, which is proposed the building blocks of the universe. Yangton and Yington Theory can be used to explain the formation of subatomic particles and unified field theory, as well as the correlations between space, time, energy and matter in the universe. Therefore, it is believed that Yangton and Yington Theory is a theory of everything.

A. Wu's Pairs and Force of Creation

According to Five Principles of the Universe [2], with the external energy generated from Big Bang explosion, a superfine circulating Yangton and Yington Antimatter particle pair with inter-attractive Force of Creation, named "Wu's Pair" (Fig. 1) can be formed as a permanent matter. These Wu's Pairs are the fundamental building blocks of all the matters in the universe such as quarks, leptons, bosons, graviton, photon, electron, positron, neutron, proton, etc [3].

The inter-attractive "Force of Creation" between Yangton and Yington is the fundamental force of the universe, which can be used to generate the String Force for the formation of elementary subatomic particles such as quarks, leptons, gluons and bosons [3]; as well as Four Basic Forces which is induced from String Force, including gravitational force, electromagnetic force, weak force and strong force for the formation of composite subatomic particles such as proton, neutron and nucleus [3].

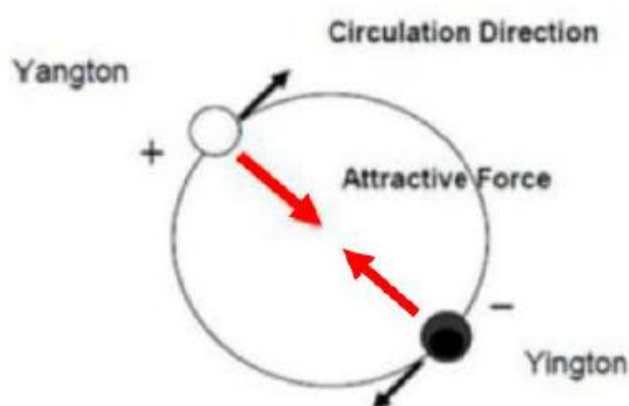


Fig. 1 Wu's Pair - a Yangton and Yington circulating pair.

B. String Force and String Structures

When two Wu's Pairs come together with the same circulation direction (both spin up or spin down), they stack up on each other at a locked-in position, where Yangton of the first Wu's Pair lines up to the Yington of the second one due to the attraction between Yangton and Yington particles. This induced force from Force of Creation between the two Wu's Pairs in the same circulation direction is called "String Force". (There are zero net interactions between two adjacent Wu's Pairs in opposite circulation directions because of the cancellations of attraction and repulsion forces between Yangtons and Yingtons). By repeating the stacking processes, strings (such as gravitons), rings (such as neutrons and protons), balls (such as electrons and positrons) and other related structures made of Wu's Pairs called "String Structures" [3] can be formed (Fig. 2), which is very well in compliance with the "String Theory" [4].

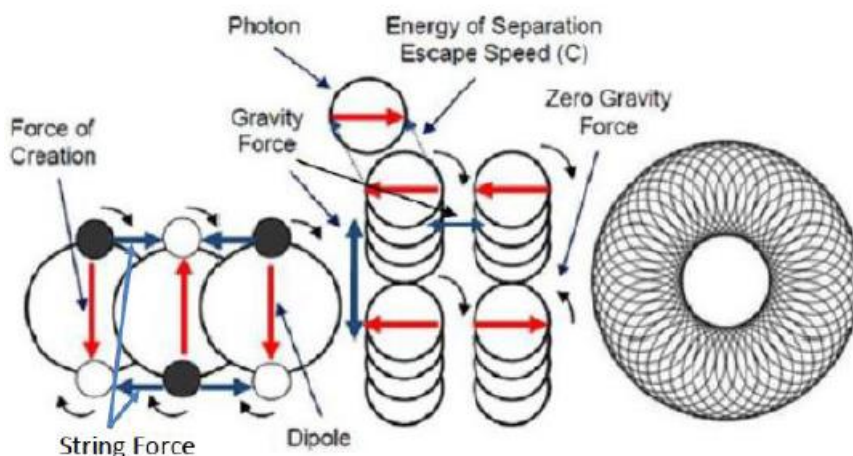


Fig. 2 Wu's Pairs stack up in a preferred direction by string force to form string and ring structures.

C. Standard Model and Subatomic Particles

Standard Model [5] is a group of subatomic particles which is derived from a mathematical model based on Quantum Field Theory [6] and Yang Mills Theory [7]. According to Standard Model, there are two types of subatomic particles: elementary particles, which according to current theories are not made of other particles, and composite particles which are made of elementary particles.

The elementary particles of the Standard Model include:

- Six flavors of quarks: up, down, bottom, top, strange, and charm.
- Six types of leptons: electron, electron neutrino, muon, muon neutrino, tau, tau neutrino.
- Twelve Gauge Bosons (force carriers): the photon of electromagnetism, the three W and Z Bosons of the weak force, and the eight gluons of the strong force.
- The Higgs Boson.

Various extensions of the Standard Model predict the existence of an elementary Graviton particle and many other elementary particles.

Composite subatomic particles such as protons or atomic nuclei are bound states of two or more elementary particles. For example, a proton is made of two up quarks and one down quark, a neutron is made of two down quarks and one up quark, while the atomic nucleus of Helium-4 is composed of two protons and two neutrons.

In contrast to Standard Model, based on Yangton and Yington Theory, all elementary subatomic particles including quarks, leptons, Gauge Bosons, gluons, photon, Higgs Boson and Graviton are composed of Wu's Pairs, the building blocks of all matters, with a string structures that are glued together by string forces induced from Force of Creation between two adjacent Wu's Pairs. Furthermore, composite subatomic particles are made of elementary subatomic particles that are glued together by four basic forces including gravitational force, electromagnetic force, weak force and strong force induced from string force based on Force of Creation subject to the subatomic structures and their interactions.

III. Graviton and Gravitational Force

When two string structures come together side by side, no matter the circulation directions, they can adjust themselves to attract each other at the contact position by a group of string forces generated between the Yangtons of one string structure and the Yingtons of the other string structures in each cycle of circulation. This group of attraction only string forces is known as "Gravitational Force" (Fig. 3) and all the string structures that can produce the gravitational force are called "Gravitons" [3] including quarks, leptons and bosons, except photon and gluons without string structures and adjustable circulations.

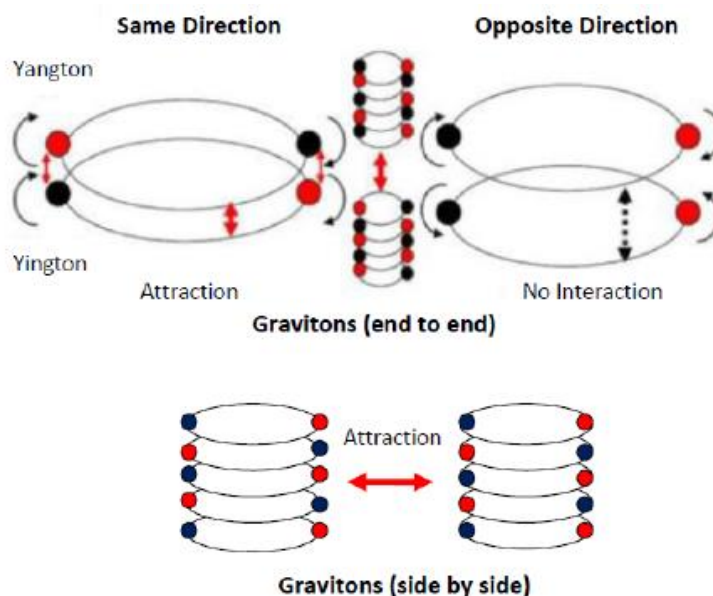


Fig. 3 Gravitational force between two graviton particles

IV. Graviton Radiation and Contact Interaction – Remote Gravitational Force

Like photon, graviton can also be radiated from a parent object by absorbing thermal or kinetic energy. This is called “Graviton Radiation”. As a graviton emitted from the parent object reaches the target object, it makes an interactive contact with the graviton on the target object side by side where the two gravitons can adjust themselves so as to attract each other by forming a group of string forces between the Yangtons of one graviton and the Yingtons of the other graviton in each cycle of circulations. This is called “Contact Interaction” and the whole process is called “Graviton Radiation and Contact Interaction Theory” [8].

The force generated by the contact interaction between the two gravitons is called “Remote Gravitational Force”. Remote Gravitational Force is “a multiple gravitational forces” generated by the contact interaction between two groups of gravitons, one group from target object and the other group through graviton flux from parent object. It is different from the ordinary “gravitational force” which is “a single gravitational force” generated by the contact interaction between two adjacent gravitons on the same object.

Instead of being formed by the propagation of gravitational force, Universal Gravitation is the remote gravitational force generated by Graviton Radiation and Contact Interaction process between two objects, In fact, gravitational force cannot propagate, only gravitons generated by graviton radiation can move with graviton flux.

V. Static Graviton Flux and Dynamic Graviton Flux

There are two types of graviton fluxes, Static Graviton Flux and Dynamic Graviton Flux (Fig. 4)[9]:

(1) Static Graviton Flux (also named Aether Inflow) is the graviton flux at target object generated by the graviton radiation from parent object (no matter of the relative motion between two objects). In a stationary single parent object system, it is proportional to the gravitational field, and it is also equal to the total graviton bombardment intensity.

(2) Dynamic Graviton Flux (also named Aether Wind) is composed of the gravitons in the static graviton flux that are interacted with the target object. It moves at the same speed as the target object but in opposite direction.

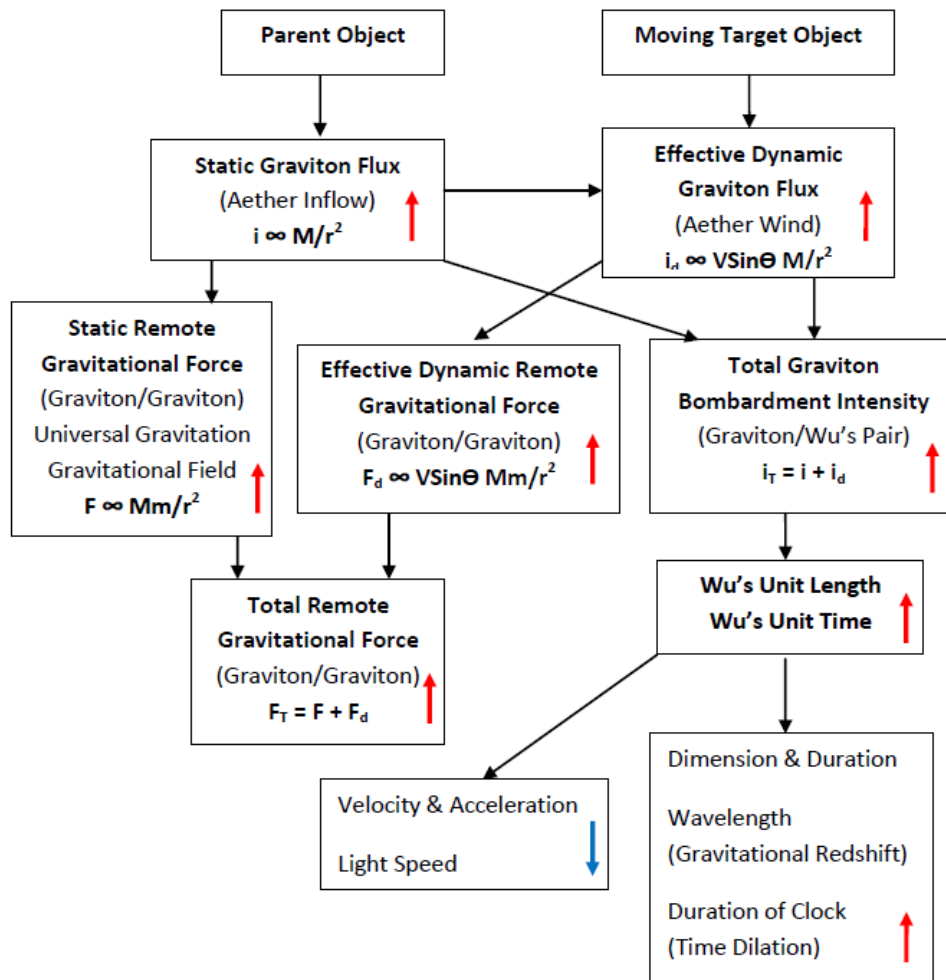


Fig. 4 The correlations between Static Graviton Flux and Dynamic Graviton Flux, and between Graviton Bombardment and Properties of Objects and Events

Static Graviton Flux can always be generated between two objects by Graviton Radiation no matter of the relative motion between the two objects. However, Dynamic Graviton Flux can only be generated with moving target object by the interaction between Static Graviton Flux and moving target object. As a result, Remote Gravitational Force (vector) is the total force (vector) generated by the contact interaction between two groups of gravitons, one group of gravitons from Static Graviton Flux (vector) and Dynamic Graviton Flux (vector), and the other group of gravitons from the target object.

On the other hand, the properties of an object or event are dependent on Wu's Unit Length and Wu's Unit Time of the subatomic particles in the object or even, which are dependent on the total graviton bombardment or the total amount of graviton fluxes (not vectors), or in other words, the summation of the amounts of Static Graviton Flux and Dynamic Graviton Flux.

VI. Ewton's Law Of Universal Gravitation

According to Particle Radiation and Contact Interaction Theory based on Yangton and Yington Theory, Newton's Law of Universal Gravitation [10][11] can be derived to calculate the Static Remote Gravitational Force (Universal Gravitation) between the two objects no matter of the relative motion.

Like a photon emitted from a heat source by absorbing thermal energy to overcome the string force, graviton can also be emitted from an object by absorbing thermal energy to overcome the gravitational force. It is obvious, Static Graviton Flux (i), the gravitons emitted from the parent object reaching the target object per unit area per unit time, should be proportional to the mass of the parent object (m_1), and also inversely proportional to the square of the distance (r) between parent object and target object (Fig. 5). Therefore,

$$i = p m_1/r^2$$

$$\mathbf{I} = p m_1/r^2 \mathbf{r}$$

Where \mathbf{I} is the static graviton flux vector, i is the static graviton flux, p is static graviton flux constant, m_1 is the mass of parent object, r is the distance from m_1 and \mathbf{r} is the unit vector with direction away from m_1 .

Furthermore, the static remote gravitational force (F) generated by contact interaction between the gravitons emitted from the parent object and the gravitons on the target object should be proportional to the static graviton flux (i) in compliance with Graviton Radiation, and the total quantity of the gravitons on the target object proportional to the mass of the target object (m_2) in accordance to Contact Interaction. (Fig. 5) Therefore,

$$F_{12} = q(p m_1/r^2) m_2 S_{12}$$

Where F_{12} is the static remote gravitational force applied to target object m_2 by parent object m_1 , q is graviton contact interaction constant, p is static graviton flux constant, m_1 is the mass of parent object and m_2 is the mass of target object, r is the distance between m_1 and m_2 and S_{12} is the unit vector with direction from m_2 to m_1 .

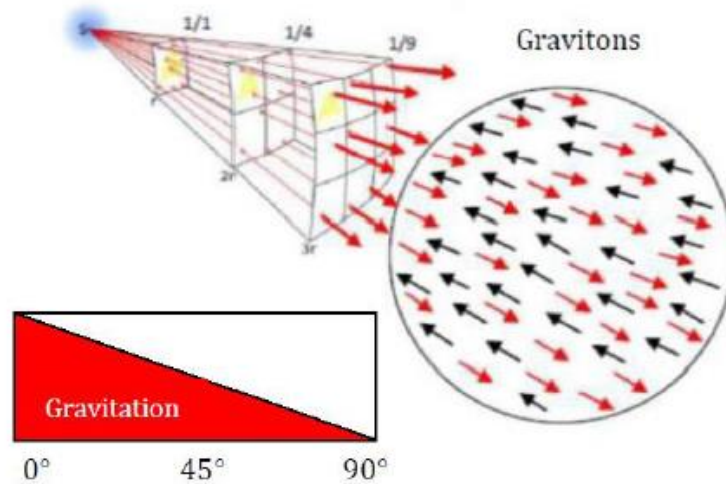


Fig. 5 Gravitational force caused by Graviton Radiation and Contact Interaction.

Furthermore, given $G = pq$, then, Newton's Law of Universal Gravitation (Fig. 6) can be represented as follows:

$$\mathbf{F} = G (m_1 m_2 / r^2) \mathbf{S}$$

Where \mathbf{F} is static remote gravitational force (universal gravitation), G is the static gravitational constant $6.674 \times 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$, m_1 is the mass of parent object and m_2 is the mass of target object, r is the distance between m_1 and m_2 and \mathbf{S} is the unit vector with direction from m_2 to m_1 .

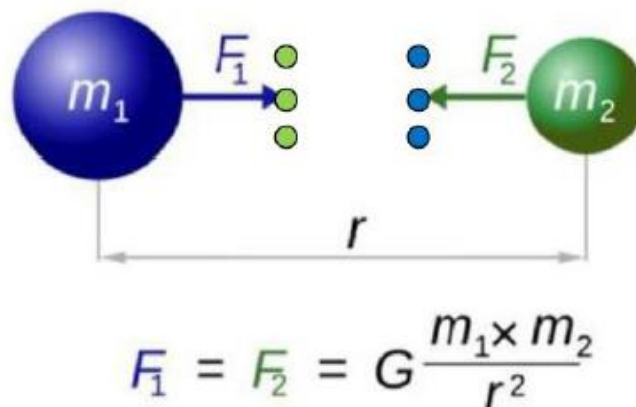


Fig. 6 Remote gravitational force between two objects.

VII. Gravitational Field and Graviton Flux and Graviton Bombardment

Gravitational Field is defined as the total remote gravitational force generated by parent objects on a unit mass ($1K_g$) at a point in space. Therefore, according to Newton's Law of Universal Gravitation, for a stationary single parent object system,

$$\mathbf{F}_g = 1K_g G (M/r^2) \mathbf{S}$$

Where \mathbf{F}_g is the gravitational field, G is the static gravitational constant $6.674 \times 10^{11} \text{ N m}^2 \text{ kg}^{-2}$, M is the mass of a parent object, r is the distance from the parent object to the unit mass and \mathbf{S} is the unit vector from the point to the parent object.

In case of stationary system (no dynamic graviton flux), the static graviton flux i from each parent object to the point is equal to $p M/r^2$,

$$i = p M/r^2$$

Therefore, the total graviton bombardment intensity B is equal to the total static graviton flux at the point which can be represented as follows:

$$B = \sum p (M/r^2)$$

Where B is total graviton bombardment intensity, p is static graviton flux constant, M is the mass of each parent object and r is the distance between the point and each parent object.

As a result, for a stationary single parent object system, the graviton bombardment intensity is equal to static graviton flux which is proportional to gravitational field.

VIII. Effective Dynamic Graviton Flux and Dynamic Remote Gravitational Force

In addition to static graviton flux which can be generated between any two objects, dynamic graviton flux can only be produced between two objects with relative motion. Fig. 7 is a model of Dynamic Graviton Flux, in which Dynamic graviton flux is composed of the gravitons that are in the static graviton flux interacted with the target object. It moves at the same speed but in opposite direction to that of the target object.

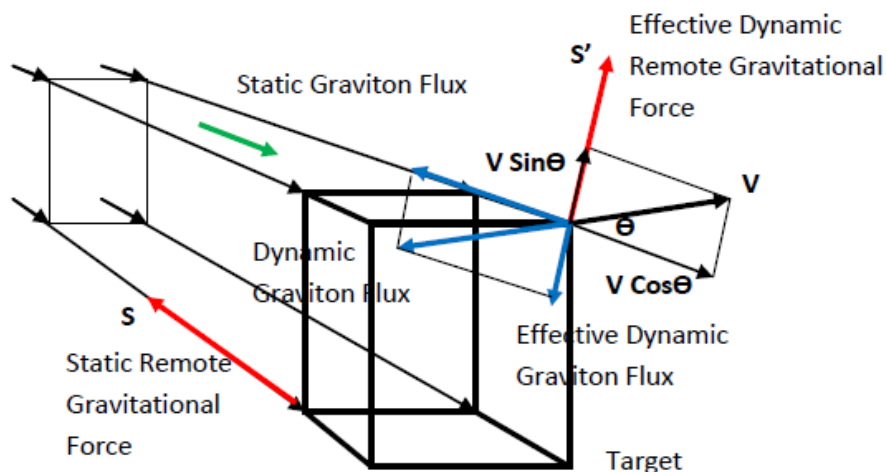


Fig. 7 Correlations between static graviton flux, static remote gravitational force, target object moving velocity, dynamic graviton flux, effective dynamic graviton flux and effective dynamic remote gravitational force.

Dynamic Graviton Flux is a vector, it has two components: One component is along the static graviton flux with a speed of $V \cos \theta$ (where V is the speed of the moving target object), and the other one is perpendicular to the static graviton flux at a speed of $V \sin \theta$ (Fig. 7). Since V is much smaller than the speed of static graviton flux (assuming light speed), therefore the one along static graviton flux is negligible and only the perpendicular one, the effective dynamic graviton flux (i_d) should be counted. Furthermore, because effective dynamic graviton flux is proportional to static graviton flux i_s and $V \sin \theta$, the perpendicular speed of the target object, Therefore,

$$i_d = k V \sin \theta i_s$$

Because

$$i_s = p (m_1/r^2)$$

Therefore,

$$i_d = kp V \sin \theta (m_1/r^2)$$

Also,

$$F_d = q m_2 i_d$$

$$G = pq$$

Therefore,

$$F_d = k V \sin \Theta G(m_1 m_2 / r^2) = k V \sin \Theta F_s$$

$$\mathbf{F}_d = k V \sin \Theta G(m_1 m_2 / r^2) \mathbf{S}'$$

Where i_d is effective dynamic graviton flux, F_d is effective dynamic remote gravitational force (\mathbf{F}_d is the vector), k is dynamic remote gravitational force constant, V is the relative speed between parent object m_1 and target object m_2 , Θ is the angle between m_1 and m_2 and F_s is the static remote gravitational force (universal gravitation). \mathbf{S}' is the unit vector at $90^\circ - \Theta$ from the moving direction of the target object.

As a result, the total remote gravitational force \mathbf{F}_T is a vector summation of static remote gravitational force \mathbf{F}_s and effective dynamic remote gravitational force \mathbf{F}_d .

$$\mathbf{F}_T = \mathbf{F}_s + \mathbf{F}_d$$

$$\mathbf{F}_s = G (m_1 m_2 / r^2) \mathbf{S}$$

$$\mathbf{F}_d = k V \sin \Theta G(m_1 m_2 / r^2) \mathbf{S}'$$

In addition, gravitational field is defined as the total remote gravitational force generated by parent objects on a unit mass ($1K_g$) at a point in space. Therefore, for a dynamic (moving) single parent object system, the gravitational field is as follows:

$$\mathbf{F}_g = 1K_g [G (M/r^2) \mathbf{S} + k V \sin \Theta G(M/r^2) \mathbf{S}']$$

Furthermore, for a multiple parent objects system, the total graviton bombardment intensity at a point is equal to the total graviton flux, which is the summation of the total static graviton flux from all parent objects and the total effective dynamic graviton flux from the moving parent objects.

$$Q = \sum i_s + \sum i_d$$

$$Q = \sum p (M/r^2) + \sum k V \sin \Theta p(M/r^2)$$

The total graviton bombardment intensity determines Wu's Unit Length and Wu's Unit Time of Wu's Pairs, as well as the wavelength, clock duration and all the properties of an object or event at the point.

IX. Aging Affected and Gravity Affected Wu's Spacetime Shrinkage Theory

When the universe becomes older, based on Five Principles of The Universe and complying with Cosmic Microwave Background Radiation (CMB) [12], the speed of Yangton and Yington circulation is getting faster which can make Wu's Unit Length and Wu's Unit Time smaller due to the attraction caused by Force of Creation in Wu's Pairs. This phenomenon is named "Aging Affected Wu's Spacetime Shrinkage Theory" [13]. Furthermore, in compliance with Principle of Parallelism, dimension and duration of an object or event should become smaller with aging of the universe. In other words, size should become smaller and time should become faster with aging of the universe. Also, wavelength should decrease with aging of the universe ($\lambda \propto l_{yy}$), such that Cosmological Redshift can be observed.

On the other hand, at massive graviton bombardment (or at a high gravitational field in a stationary single parent object system) based on Graviton Radiation and Contact Interaction Theory, the speed of Yangton and Yington circulation is getting slower which can make Wu's Unit Length and Wu's Unit Time bigger. This phenomenon is named "Gravity Affected Wu's Spacetime Shrinkage Theory" [13]. Furthermore, in compliance with Principle of Parallelism, dimension and duration of an object or event should become bigger at massive gravitational field. In other words, size should become bigger and clock should become slower at massive gravitational field. Also, wavelength should increase at massive gravitational field ($\lambda \propto l_{yy}$), such that Gravitational Redshift can be observed.

X. Gravity Effects on Space and Time

Space and Time are nature quantities. They don't change with anything at all. However, the dimension and duration of a corresponding identical object or event are associated quantities. Like any other properties, they can change with local gravitational field (graviton bombardment intensity in stationary single parent object system) because of the expansion of Wu's Unit Length caused by bombardment of the gravitons based on Graviton Radiation and Contact Interaction complying with Gravity Affected Wu's Spacetime Shrinkage Theory, also due to the attraction of Wu's Unit Length caused by Force of Creation in Wu's Pairs, complying with Aging Affected Wu's Spacetime Shrinkage Theory and CMB radiation.

According to Wu's Spacetime Shrinkage Theory, Wu's Unit Length l_{yy} (diameter) and Wu's Unit Time t_{yy} (period) of Wu's Pairs (building blocks of the universe) and Wu's Spacetime constant are bigger at large gravitational field (massive star) and early stage of the universe (early universe). Furthermore, because of Principle of Equilibrium and Wu's Spacetime Equation ($t_{yy} = \gamma l_{yy}^{3/2}$), the dimension ($L \propto l_{yy}$) and duration ($T \propto \gamma l_{yy}^{3/2}$) of a corresponding identical object or event are bigger, while the velocity ($V \propto \gamma^{-1} l_{yy}^{-1/2}$) and acceleration ($A \propto \gamma^{-2} l_{yy}^{-2}$) of the corresponding identical object or event are smaller at large gravitational field and early stage of the universe.

Yangton and Yington Theory agrees with General Relativity that Dimension, Duration, Speed, Acceleration and Spacetime (potential energy) of an object or event are dependent on the local gravitational field (and aging of the universe – Einstein missed this effect in his theory). However, the Lorentz factor $1/(1-V^2/C^2)^{1/2}$ that is derived from the wrong postulation "Light speed is constant no matter light sources and observers", doesn't apply to Yangton and Yington Theory and there is no fixed formula for the correlation between Wu's Unit Length and the local gravitational field (or aging of the universe).

According to Gravity Affected Wu's Spacetime Shrinkage Theory, all the properties of an object or event such as Dimension and Duration can be affected by the local gravitational field due to graviton bombardment based on Graviton Radiation and Contact Interaction Theory. These properties should also include the light speed and time dilation. A recent discovery claimed that "Aether" (an unknown particle surrounding earth) can cause time dilation [14]. However, according to Yangton and Yington Theory, this so called "Aether" could very well be the "Graviton", because only gravitational field generated by Graviton Radiation and Contact Interaction existing anywhere in the universe can change Wu's Unit Length and Wu's Unit Time which can also cause time dilation. As a consequence, Static Graviton Flux (Aether Inflow) and Dynamic Graviton Flux (Aether Wind) are proposed with a sound interpretation [9].

Although bombardment caused by other particles such as plasma can also affect Absolute Light Speed [15], gravitational field and aging of the universe existing everywhere in the universe, dominate the Absolute Light Speed in vacuum. When photon travels in a medium, Absolute Light Speed slows down due to the interference of Wu's Pairs (Mass) in the medium (the density of the medium), while keeping the same frequency and coherency.

XI. Gravity Effects on Wavelength and Light Speed

There are two different light speeds: (1) Absolute Light Speed is the light speed observed at the light source which is dependent on the gravitational field, and (2) Normal Light Speed is the light speed observed at the reference point which is the vector summation of Absolute Light Speed and Inertia Light Speed (the speed of light source observed at the reference point). Equation of Light Speed [16] can be represented as follows:

$$C' = C + V$$

Where C' is Normal Light Speed observed at the reference point, C is Absolute Light Speed observed at light source (dependent on the local gravitational field and aging of the universe, 3×10^8 m/s on earth) and V is the speed of light source observed at the reference point (Inertia Light Speed). Equation of Light Speed holds at the time of photon emission, no matter the reference points. It also works for a constant speed light source at anytime referenced at light origin or its inertia system.

Under both thermal and subatomic equilibriums, photon is a corresponding identical object and light speed is a corresponding identical event. According to Principle of Parallelism and Wu's Spacetime Equation ($t_{yy} = \gamma l_{yy}^{3/2}$) [13], the wavelength of the Absolute Light ($\lambda \propto l_{yy}$) is bigger and Absolute Light Speed ($C \propto \gamma^{-1} l_{yy}^{-1/2}$) is smaller at large gravitational field and early stage of the universe, such that Gravitational Redshift [13] and Cosmological Redshift [13] can be observed.

The Absolute Light Speed C observed at light source is dependent on the local gravitational field and aging of the universe. It is constant at a fixed local gravitational field and aging of the universe, such as 3×10^8 m/s on earth (m/s is dependent on the local gravitational field and aging of the universe), no matter the light sources. In fact, Absolute Light Speed is dependent on Wu's Unit Length which can be influenced by graviton bombardments such as static graviton flux (gravitational field) and dynamic graviton flux (Aether Wind). Although bombardment can be generated by other particles such as plasma, it is mainly dominated by gravitational field and aging of the universe which exist almost everywhere in the universe.

Furthermore, when photon passes by a massive star, because of the large gravitational field of the star, Absolute Light Speed decreases such that Deflection of Light can be observed. This is different from reflection, in which photon travels in a medium, Absolute Light Speed slows down due to the interference of Wu's Pairs (Mass) with the medium (the density of the medium), while maintaining the same frequency and coherency. Furthermore, because of the variations of the speed of light source V (Inertia Light Speed), Axial Redshift, Transverse Redshift, Acceleration Redshift [17] and Event Horizon [18] can be observed.

XII. Gravity Effects on Observation at Reference Point

Subject to the unit quantities used for the measurement of an object or event, such as normal unit length (meter) and normal unit time (second), or Wu's Unit Length (l_{yy}) and Wu's Unit Time (t_{yy}), which are dependent on the local gravitational field and aging of the universe of the observer at the reference point, the amounts of unit quantities of the properties of the object or event can vary with each measurement, same as that of the wavelength and light speed.

According to Wu's Spacetime Shrinkage Theory, a corresponding identical object or event on a massive star of large gravitational field has bigger dimension (length) and duration, and smaller velocity and

acceleration, because of the bigger Wu's Unit Length (l_{yy}) and Wu's Unit Time (t_{yy}) at the massive star. As it is observed on earth, because of the smaller Normal Unit Length (or Wu's Unit Length) and Normal Unit Time (or Wu's Unit Time) used for measurement on earth, the amounts of unit length and unit time are bigger, also the amounts of unit velocity and acceleration are smaller than that measured on the star. Consequently, for a photon on a massive star, its wavelength is bigger and light speed (Absolute Light Speed) is smaller measured on earth (assuming star is stationary to earth and Inertia Light Speed is zero). This agrees very well with the predictions of Einstein's General Relativity [19].

XIII. Conclusion

According Yangton and Yington Theory, Wu's Unit Length and Wu's Unit Time of Wu's Pairs (building blocks of the universe) can be affected by particle bombardment, especially the graviton bombardment. Also, all the properties of an object or event are dependent on Wu's Unit Length (diameter) and Wu's Unit Time (period) of Wu's Pairs in the subatomic particles of the object or event. Therefore, the dimension, duration, velocity and acceleration of an object or event, as well as wavelength, light speed and time dilation can all be affected by the intensity of graviton bombardment which is the summation of Static Graviton Flux ($i = pM/r^2$) generated by graviton radiations from parent object and Effective Dynamic Graviton Flux ($i_d = k_p V \sin \Theta M/r^2$) generated by the interaction between Static Graviton Flux and the moving target object.

Under both thermal equilibrium at constant temperature and subatomic equilibrium at constant gravitational field (stabilized graviton bombardment), according to Principle of Equilibrium, all Wu's Pairs in the subatomic particles of an object or event have fixed Wu's Unit Length and Wu's Unit Time, as is all the properties of an object or event. In addition, according to Wu's Spacetime Shrinkage Theory, an object or event at a massive graviton bombardment (or at a large gravitational field in a stationary single parent object system) should have a large Wu's Unit Length and Wu's Unit Time, as well as a big dimension and duration, also a large wave length, small light speed and slow time clock than that at a less intensive graviton bombardment. These correlations can be used successfully in the interpretation of many cosmological phenomena such as Gravitational Redshift, Deflection of Light, Perihelion Precession of Mercury and Time Dilation, etc.

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