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The Graviton Effect Theory

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Abstract The theory provides common ground for quantum mechanics and the general and special theory of relativity by the means of quantum gravity, aiming specifically at gravitons and their behavior. Gravitons have a dual nature, poly dimensional nature of waves which manifests as gravity and an extra-dimensional nature that forms time as a fourth dimension. It is also explained that gravitons are forcibly held in an extra-dimensional state and how are they held in that state and the only way to bypass that is to match the speed of gravitons, which is the "speed of light". Once travelling at the speed of light, two natural reactions occur. The origin of singularities, photons, cores of stars and black holes is due to these reactions. It is also explained that our Universe isn't the only one.

Keywords Theory of relativity, Quantum mechanics, Cosmology

1. Introduction

In this theory we shall focus on the events that occur when a macroscopic body with a macroscopic mass reaches the speed of light or gets consumed by a black hole. Those processes shall be named as "demolecularisation" and "remolecularisation", and they are of crucial value to understand many things that have puzzled physicist so far, such as: 1. the nature of the graviton particle. 2. The connection between quantum mechanics and the theory of relativity, arguing that the laws of quantum mechanics / particle physics are the "original laws" of our Universe. 3. What happened before the Big Bang? In this theory arguments shall be presented to why and how a Big Bang happens, and that other Big Bangs happened in our Universe, which defined our "space-time continuum". The outside perspective of these Big Bangs is the event dubbed "the Great Echo". 4. The nature of stars and why they're of crucial importance to physics. It will also be argued that our Universe isn't the only one and that there is a "Universum", a connected series of universes, meaning that our Universe is only a branch of the Universum. The word "Universum" is a mixture of the words "Universe" and "sum".

2. The New Theory of Relativity

Unlike the general and the special theory of relativity, the new theory of relativity focuses on the events that occur when a macroscopic body with a macroscopic mass reaches the speed of light. Demolecularisation is the process of removing a bodies' macroscopic shape by overpowering the interactions of particles that formed the body therefore "quantising" the macroscopic body down to particles that formed it. Stephen Hawking called the process "shredding", in layman terms, during a speech.

After the "quantising" process mass and energy separate, therefore we can use Einstein's famous equation.

$$E=m\cdot\mathbf{c^2} \tag{1}$$

Thus:

$$\mathbf{c^2}=\frac{\mathbf{E}}{\mathbf{m}} \tag{2}$$

Having in mind that every macroscopic body is formed out of particles, its mass is:

$$\mathbf{m}=\sum\mathbf{m_q} \tag{3}$$

The m_q stands for quantum mass, the mass of an individual particle.

Due to mass-energy equivalence in the special and general theory of relativity, we must do the same with energy.

$$\mathbf{E}=\sum\mathbf{E_q} \tag{4}$$

The Eq stands for energy of an individual particle.

Thus:

$$\mathbf{c^2}=\frac{\sum\mathbf{E_q}}{\sum\mathbf{m_q}} \tag{5}$$

When a macroscopic body reaches the speed of light or enters a black hole, a much stronger gravity overpowers the forces of the particle interactions that formed the bodies' shape, separating the bodies' mass and energy therefore destroying its macroscopic shape and forcing the mass into a single point without a shape, forming an un-free body known as a singularity, while the energy continues to travel in the form of photons. The continued travel of photons is the first form of the remolecularisation process after which the singularity is continuously remolecularised, turning the

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shapeless mass into energy, and emitting it in the form of photons.

The reason this happens is the nature of particles known as gravitons.

Gravitons are particles and their own anti-particles, they have a spin of 2 boson and they have no mass.

The nature of gravitons is poly-dimensional; the three-dimensional wave nature manifests as a "very weak force" of gravity and has the same speed as light. The particle nature of the graviton is extra-dimensional, it manifests as an "extra dimension", the fourth dimension of time.

Graviton waves travel at the same speed as light does, therefore once a body reaches the speed of light or enters a black hole, gravitons will no longer be extra-dimensional and time behaves as the 4th dimension. This exposes the body to "non-extra dimensional gravitons" or "pure gravitons", they manifest as both a much stronger "force of gravity" and a "slower passing time", causing what is known as "time dilatation".

$$\frac{t_r}{t} = \sqrt{1 - \frac{r_s}{r}} \tag{6}$$

This "stronger gravity" or "pure gravity" manifests as a force as strong as the electromagnetic one, or stronger than it, which is why even light cannot escape the event horizon of a black hole.

Its relative strength is either 10^{36} or 10^{37} times stronger than gravity, or more, and its range is infinite.

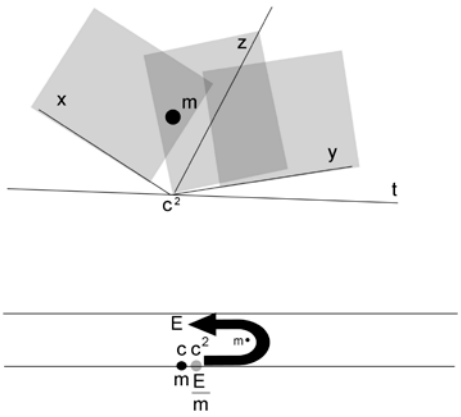

Figure 1. The demolecularisation process

Due to this realization the processes of demolecularisation and remolecularisation are of crucial value.

The wave property of gravitons defines gravity as a "very weak force"; the extra-dimensional particle nature defines time as an extra dimension, a fourth dimension, in relativistic conditions.

The space-time continuum can also be defined as the "gravity-time continuum".

This is the reason only particles with no rest mass, such as photons, can travel at the speed of 299 792 458 m/s, without being extra-dimensional, other than that they have nearly the same characteristics as gravitons do, but with a spin of 1 boson. This is due to demolecularisation, since photons are products of "pure gravitons". One could even call them "famous cousin particles".

When electrons and positrons annihilate each other, they produce photons. The masses annihilate each other due to different charges of the particle and the anti-particle (-1 and +1 charge) but due to gravitons the annihilation produces photons by combining the spins of the two (both have a spin of 1/2) into a 1 spin boson massless particle, a photon.

Gravitons affect particles, even though gravity doesn't seem to, they affect the spin of particles.

Colliding two neutrons and two anti-neutrons would lead to annihilation and should produce a graviton.

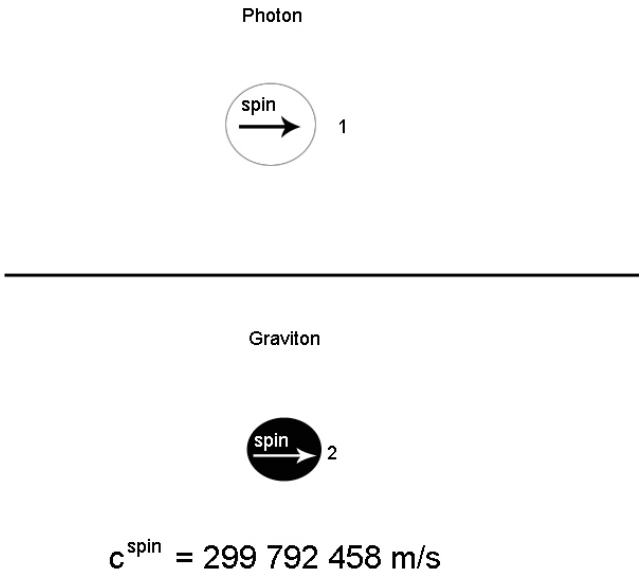

Figure 2. Gravitons and photons

This means that in this special case, the exponent 2 represents the spin of the graviton. This allows us to form an equation for spin, using the equation 2.

$$c^{spin} = \frac{E}{m} \tag{7}$$

$$Spin = \log_c \left(\frac{E}{m}\right) \tag{8}$$

Where E stands for the energy of the particle and m for the mass of the particle.

There are several types of demolecularisation and remolecularisation. The one of entering a black hole and reaching the speed of light are as described above however, there is another one too and it is crucial to prove the existence of demolecularisation and remolecularisation.

During demolecularisation a very high temperature is released and thus any matter nearby is in a state of a very high density. Due to this the core of a star and the inside of a black hole both have very high temperatures.

The temperature can be high enough to force nuclear reactions.

In the core of every star this process is constant. The reason is that gravitons commit demolecularisation in the centre of a star, thus the matter is heated up by the temperature released and it becomes in a state of high density, plasma. However, the core isn't microscopic as a singularity is, and the high temperature forces nuclear fusion; converting hydrogen nuclei into helium nuclei.

Due to the demolecularisation process the core of a star emits photons, the atmosphere of the star is hotter than its surface and the core of the star has an extremely high temperature which causes nuclear fusion. This gives stars an "increased gravity effect" and thus, in such a solar system, a dwarf star won't circle around a more massive planet. This is also how stars react with the centre of a galaxy while planets do not.

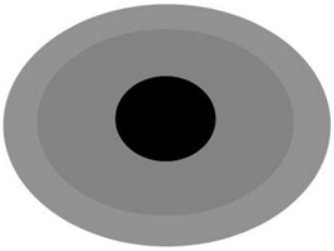

Figure 3. Anatomy of a star

However, this is also the reason that stars die, the gravitons slowly remolecularise the core, shrinking its shape until they force it to the state of a singularity, collapsing it, and thus a supernova occurs and a black hole appears after.

After forcing the mass into a state of singularity, gravitons continue to remolecularise it until no mass is left. This type of remolecularisation appears in the form of x-rays, therefore making it observable since every black hole radiates them. This is known as Hawking radiation.

Hawking radiation temperature:

$$T_H = \frac{\hbar c^3}{8\pi G M k_B} \tag{9}$$

When a black hole consumes a macroscopic body it passes through the same process of demolecularisation as described above but instead the black hole adds the mass to its own singularity. The singularity is held in the state of infinite high density by the "pure gravitons", constantly being remolecularised by them which manifests its self in the form of x-rays coming out of the black hole; as mentioned above this is known as "Hawking radiation". The singularity, however, also influences the gravitons, while they are keeping the singularity in the un-free body state and remolecularising it, causing it to lose mass, they are also forced to stay in this "non-extra dimensional" state.

The singularity is most probably microscopic in size, or of a very small macroscopic size. Although it is so small, its mass can reach a number of solar masses. A solar mass is the mass of the Sun:

$$M = (1.98855 \pm 0.00025) \times 10^{30} \text{ kg} \tag{10}$$

Due to this, I classified the singularity as an "un-free body". The gravitons have forced all the mass in a single point, attempting to erase it or eradicate it from existence, which is impossible, therefore forcing them to remolecularise it.

They are held in the non-extra dimensional state, which manifests itself as a "black hole".

Since these "non-extra dimensional" gravitons find themselves surrounded by extra-dimensional gravitons, which define our universe as it is, they seem as a "pocket of gravity-time", or a "pocket hole of gravity-time".

This is the reason that the event horizon of a black hole can even pull in photons, and this is why I formed the opinion that the non-extra dimensional graviton manifests as a much stronger force of gravity.

Due to this, even light can't escape the event horizon of a black hole.

Schwarzschild radius:

$$r_S = (2 \cdot G \cdot m)/c^2 \tag{11}$$

Any object whose radius is smaller than its Schwarzschild radius is called a black hole.

$$r_S = \frac{2Gm}{\frac{E}{m}} \tag{12}$$

Thus:

$$r_S = \frac{2Gm^2}{E} \tag{13}$$

In the new theory of relativity the m squared stands for super mass. This causes "gravitational time dilatation", as mentioned above, gravitons have properties of both time as the fourth dimension and of gravity.

So we realize that the "super mass" effect happens due to relativity of time, hence the second part of the gravitons nature, the extra-dimensionality.

Now we have to ask ourselves three important questions:

1. What happens when a star of matter has a core of anti-matter?
2. What happens when a star of anti-matter has a core of matter?

The answer to both these questions is the same:

Instead of demolecularisation, annihilation would occur and instead of producing photons, these "special stars" would be producing gravitons. This sort of stars cannot exist now, but some 13.7 billion years ago, in the youth of our Universe during, or shortly after, the Big Bang they could exist.

They were stars of matter with cores of anti-matter.

3. If every star has to have a supernova and after that a black hole appears, what happens when these "special" stars have a supernova and what appears after it?

When annihilation occurs, the atmosphere of the star is not only hotter than the stars' surface but it also becomes extra-dimensional. The atmosphere then starts to consume

matter changing it to “dark matter”. That creates an extra-dimensional “barrier” around the special star; it also shortens the stars' life, leading to an early supernova hence forming a universe on the inside and a center of a galaxy on the outside.

3. The Universum Theory

The word “Universum” is a mixture of words “Universe” and “sum”. Universum is a connected series of universes.

Almost every universe is also a sub-universe.

A sub-universe is a centre of a galaxy, behaving like a rotating super massive black hole that doesn’t need to consume matter in order to expand. Since black holes have to consume matter to grow, I named these galactic centres “sub-universes” to distinguish them from black holes since they also behave like wormholes that lead from one universe to another.

The Big Bang

In the beginning, our Universe was microscopic, the size of a particle and in a state of extremely high density. However, it wasn’t a singularity.

A Big Bang occurs when a “special star” takes the attributes of a singularity.

We will name this a false singularity.

A special star is a star of matter with a core of anti-matter or a star of anti-matter with a core of matter.

The reason this happens is the existence of the original rule and the original law for every universe.

Our original laws are laws of what we define as quantum mechanics and particle physics. Our entire Universe is defined by them.

There is a previous universe, a universe in which our universe functions as a center of a galaxy.

I will name it the “previous-verse”.

Every universe is also a sub-universe, functioning as a centre of a galaxy.

Our Universe was one of the special stars in the previous-verse, a star of anti-matter with a core of matter.

Once the Big Bang started, there was approximately half matter half anti-matter but do to matter being in the core, it had a higher temperature and the anti-matter that was around the core a lower one.

Anti-matter started forming centers in our, now “autonomous”, but not yet independent, Universe. This is due to the “original rules”. However, due to matter having a higher temperature, they started to interact and to form our own special stars. They were stars of matter with a core of anti-matter. The cores of anti-matter attracted matter, nearly all of it.

The nature of a special star is the opposite of a normal star; its core has a lesser temperature than matter that surrounds it, ttherefore a special star has a very short life span compared to a normal star, since this will lead to a type Ia supernova.

After these special stars formed, their cores of anti-matter were huge which is why our Universe doesn’t consist half of matter and half of anti-matter, since all the anti-matter was in the cores of these special stars.

Once they formed, the stars started their own special version of demolecularisation, called annihilation. Instead of photons they produced gravitons.

This is how the first gravitons came to be in our Universe.

Matter and anti-matter attract each other, therefore their annihilation produces gravitons. This attraction is hardly noticeable on the microscopic level, between the particles and anti-particles.

The special stars produced gravitons but, as mentioned above, due to their nature they were about to have an Ia class supernovae. Due to the annihilation process their atmospheres were extra-dimensional. Their very hot and extra-dimensional atmospheres started to consume matter from the bodies of the special stars as well as the surroundings, therefore shortening the already short life span of the special stars, which created an extra-dimensional barrier.

The Great Echo

At that moment, each of the stars had a supernova. One side of the barrier created the conditions for the cores and some of the matter to start their own Big Bangs on the inside. On the outside, some of the extra-dimensional matter from the atmospheres got shattered all across our Universe, that matter is known as “dark matter”.

I named this event the “Great Echo”. It is the outside perspective of all the Big Bangs that formed our sub-universes.

After the Great Echo the dimensional barriers became event horizons.

What was left of the special stars and their cores formed our own sub-universes, centers of our galaxies, on the outside and each of them began a Big Bang on the inside. With time, the leftover matter in our Universe formed into stars, planets, moons etc.

At the center of every galaxy is a universe. From the outside it is a sub-universe, from the inside it is a universe.

The shock waves of the special supernovae have set the first macroscopic law and made the gravitons extra-dimensional.

The first macroscopic law is that the maximal speed for anything with a mass is what we call the “speed of light” and after reaching it mass and energy become forcibly separated.

$$c = max \tag{14}$$

Due to the size of the special stars that formed them, we realize that our sub-universes might seem a lot smaller than our own on the outside but on the inside they are much larger and complex than our Universe.

Here we also realize that our previous-verse is microscopic, compared to our own.

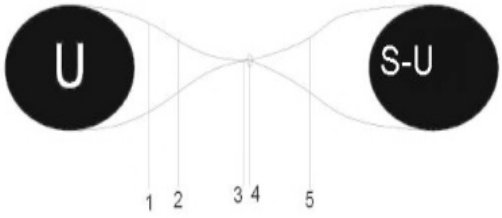

Figure 4. Universe to sub-universe relation

1. U>>S-U (15)
2. U>>S-U (16)
3. U>S-U (17)
4. U=S-U (18)
5. U<<S-U (19)

The 4th point is the "entrance point", it doesn't exist in nature.

Due to this every sub-universe has a super mass compared to its universe.

Do to their super mass; our sub-universes interact with stars, stars interact with planets and planets interact with moons.

At the same time the sub-universes interact with dark matter and continuously keep the gravitons in an extra-dimensional state by forcing it to behave as our universe does from the point of view of being a sub-universe. An explanation will be provided later in the theory.

Their interaction with dark matter also forces the dark matter to emit dark energy which accelerates the expansion of our Universe. This do to the fact that our sub-universes have their own sub-universes that have their own… This creates a chain reaction that forces the acceleration of the expansion of a universe.

At the same time these sub-universes, as galactic centers, interact with stars by moving them and therefore expanding galaxies as well as the Universe. This is directly observable.

Each of our sub-universes is formed of anti-matter due to the original rule:

Sub-universes of a universe formed of matter will all be formed of anti-matter; therefore, sub-universes of a universe formed of anti-matter will all be formed of matter.

Here we conclude that our previous universe is one of anti-matter and it is tiny, microscopic, compared to our own.

Our previous-verse only has the "original law", meaning that it only consists of particles, with no macroscopic bodies like the ones in our Universe. The reason is that the particles move with very high velocities and cannot interact long enough to form bodies.

This leads to the possibility that the previous-verse has no galaxies like our Universe does but instead of galaxies, it has fields. Our Universe, as a sub-universe, interacts with the particles in the previous-verse and forms a field. Having in mind that particles move with incredible velocities, this could be a tachyon field.

Do to this, the tachyon particles move faster than the centre, therefore faster than c, the speed of light and as such, they cannot enter our Universe.

The original rule and the original laws are inherited from the previous-verse.

We can conclude that our sub-universes will inherit those laws from our Universe.

In the previous-verse, our Universe is a sub-universe, it is the size of a mere particle and it has no mass, only super mass. It has a spin of 2 boson, therefore the nature of gravitons here, in our Universe, is as such. Once our Universe formed its sub-universes it became independent and formed on the outside and on the inside. On the inside, galaxies were forming around the sub-universes.

All the sub-universes of the same universe share the same 4th dimension, the dimension of time, but every sub-universe has unique dimensions of space.

Potential evidence for this lies in the M-theory. Due to the same 4th dimension, our "sister universes" appear as additional dimensions, therefore we might find out how many of them is there.

This could mean that time might be the first dimension and the other three dimensions of space exist due to it, forming a space-time continuum. Our Universe shares the fourth dimension with other sub-universes of the previous universe, but each of them has unique dimensions of space.

$$U = [x_U, y_U, z_U, t] \quad (20)$$

$$U' = [x_{U'}, y_{U'}, z_{U'}, t] \quad (21)$$

$$U'' = [x_{U''}, y_{U''}, z_{U''}, t] \quad (22)$$

This is also the reason that the sub-universes at the centre of our galaxies are rotating. Instead of having a spin, they function by our "macroscopic laws", therefore they have angular velocities and thus rotational speed; additionally, they are also moving through the universe with a velocity.

This is why the galaxies are shaped as such.

Gravitons define our Universe by imitating its behavior as a sub-universe therefore, as a sub-universe in the previous-verse; our Universe is moving at the speed of light c and has a spin of two. Our sub-universes, the galactic centers, force gravitons to do that by interacting with dark matter. This manifests as a "weak force of gravity" and it also accelerates the expansion of our Universe. This is why it's:

$$c^2 = \frac{\sum E_q}{\sum m_q} \quad (23)$$

Meaning that our sub-universes are defined by:

$$V^{\omega} = \frac{\sum E}{\sum m} \quad (24)$$

Figure 5. The shape of a galaxy is due to angular velocity

Therefore the angular velocity can be described as:

$$\omega = log_v\left(\frac{E}{m}\right) \quad (25)$$

The sub-universes only seem to interact with stars, due to their nature starts make a chain reaction and interact with planets, and planets interact with moons.

Now we can form the "Universe equation".

$$\mathrm{U} = \mathrm{c}^2 \cdot \mathrm{a_u} \quad (26)$$

Thus:

$$\mathrm{U} = \frac{\sum E}{\sum m} \cdot a_u \quad (27)$$

The au stands for the acceleration of our Universe, the U stands for the Universe.

Having in mind that every universe is also a sub-universe; the equation for the sub-universe has to be the same and yet different. Acceleration is the key to achieve that.

$$F = ma \quad (28)$$

$$a = \frac{F}{m} \quad (29)$$

Of course, the acceleration here is far more complex than in the equation above. Instead of force we will put "gravity-time", marked with GT and mass will have a summation symbol before it.

$$a_u = \frac{GT}{\sum m} \quad (30)$$

Therefore the sub-universe equation will be:

$$\mathrm{SU} = \frac{E}{m} \cdot \frac{GT}{m} \quad (31)$$

$$\mathrm{SU} = \frac{E \cdot GT}{m^2} \quad (32)$$

The GT stands for "gravity-time"; it is a dimensionless physical constant, having no units attached. It is at least 10^{36} times stronger than gravity. It is a unified model of the one from Einstein's field equations for general relativity:

$$\mathrm{G_{\alpha\beta}} = 8\pi \mathrm{GT_{\alpha\beta}} \quad (33)$$

$$G_{\alpha\beta} = R_{\alpha\beta} - \frac{1}{2} R g_{\alpha\beta} \quad (34)$$

$$\mathrm{R_{\alpha\beta}} - \frac{1}{2}\mathrm{Rg_{\alpha\beta}} = 8\pi \mathrm{GT_{\alpha\beta}} \quad (35)$$

unifying gravity and time, as a 4th dimension, unlike in the field equations above.

However, this simple equation only explains the behaviour of the sub-universe as a galactic centre; it is also a traversable wormhole since entering it would lead to entering another universe.

A sub-universe, as a galactic centre, behaves as a super massive rotating black hole but it is also a worm hole, therefore we can apply the Schwarzschild model of a wormhole, but having in mind that this is a rotating black hole and a traversable wormhole, this model alone will not do, therefore we must also apply a traversable worm hole model.

Now we realize how exactly dark energy forces a universe to expand by an accelerated rate through the E, using super mass to mass relation and gravitons.

From what previously explained we can form an equation for spin and angular velocity:

$$spin: \ \omega = G \quad (36)$$

$$G = \frac{log_c\left(\frac{E}{m}\right)}{log_v\left(\frac{E}{m}\right)} \quad (37)$$

G is the gravitational constant.

$$G = 6.674 \cdot 10^{-11}\, N \cdot m2/kg^2 \quad (38)$$

This means that gravity is a consequence of the curvature of space-time caused by the uneven distribution of energy and mass, as Einstein claimed.

What is known as "space-time" is formed by the galactic centeres, sub-universes, therefore making our Universe flat but since they are super massive, they cannot influence sub-atomic particles, allowing them to interact and form macroscopic bodies of different shapes. Those bodies interact with the galactic centers, leading to the uneven distribution of mass and energy.

Using the universe to sub-universe equations, we can form an equation for expansion.

$$U = c^2 \cdot a_u \quad (39)$$

$$\mathrm{SU} = \frac{\mathrm{E \cdot GT}}{\mathrm{m}^2} \quad (40)$$

Having in mind that the sub-universe is influencing the universe to expand, the equation will be:

$$\frac{\mathrm{E \cdot GT}}{\mathrm{m}^2} : \mathrm{c}^2 \cdot a_u = 0 \quad (41)$$

If we split the c^2 and a_u using:

$$\mathrm{c}^2 = \frac{\mathrm{E}}{\mathrm{m}} \quad (42)$$

$$a_u = \frac{\mathrm{GT}}{\mathrm{m}} \quad (43)$$

The equation above would be zero; therefore we know that we are on a good path.

Now we will do this:

$$c^2 \cdot a_u = \frac{\mathrm{E}\cdot\mathrm{GT}}{\mathrm{m}^2} \quad (44)$$

Now we insert the data of our sub-universe:

$$\mathrm{c}^2 \cdot a_u = \mathrm{v}^{\omega} \cdot \frac{\mathrm{GT}}{\mathrm{m}} \quad (45)$$

$$a_u = \frac{\frac{\mathrm{v}^{\omega}\cdot\mathrm{GT}}{\mathrm{m}}}{\mathrm{c}^2} \quad (46)$$

$$a_u = \frac{\frac{\mathrm{v}^{\omega}\cdot\mathrm{GT}}{\mathrm{m}}}{\frac{\mathrm{E}}{\mathrm{m}}} \quad (47)$$

$$a_u = \frac{\mathrm{v}^{\omega}\cdot\mathrm{GT}}{\mathrm{E}} \quad (48)$$

We can see how every sub-universe uses velocity and angular velocity, as a galactic centre, to influence our gravity-time to expand by forcing dark matter to emit dark energy; all do to their interaction with gravitons.

Using the equation (47) we can form an equation of our own Universe, as a sub-universe that influences the previous-verse to expand, by replacing the v^{ω} with c^2:

$$a_{pu} = \frac{\frac{\mathrm{c}^2\cdot\mathrm{GT}}{\mathrm{m}}}{\frac{\mathrm{E}}{\mathrm{m}}} \quad (49)$$

$$a_{pu} = \frac{\mathrm{c}^2\cdot\mathrm{GT}}{\mathrm{E}} \quad (50)$$

4. The Universum Hypothesis

This segment of the theory is an attempt to potentially explain how the Universum came to be but, having in mind that it is mostly formed on assumptions with no observable evidence it is therefore written under the guise of a hypothesis.

The first-verse and the second-verses

We can conclude that "looking back" at the previous-verse and all the ones before it, universes get smaller and smaller and the gravity is stronger and stronger until it gets to the point that it is just a force.

These are the first sub-universes, with gravity as just a force. They are a key aspect of the Universums' materialization. They are within a universe of time alone. This time is unlike our fourth dimension or "gravity-time"; it will, later on, be defined as "overall time". This universe of time is the first universe or the "first-verse", the only one not expanding in the entire Universum. Its sub-universes are first sub-universes, hence dubbed "second-verses".

Before the first universe, there was the root of the Universum.

The root formed the first universe, one of time alone and due to the first-verse interacting with the root, it formed two (or more, even-numbered) centres. These centres were not yet universes; there was no matter to form them. They manifested as a "reacting force" to the force of the root.

By forming the centers they formed extra-dimensional matter, which became dark matter, similar to the one in our Universe, after it got shattered across this universe but, the centers had no matter or anti-matter to form a universe of their own. Thus, the two or more, even-numbered, centers started attracting dark matter while interacting with each other, absorbing it and changing its nature completely, due to their interaction. This is how the first matter and anti-matter came to be, and the first sub-universes.

Therefore, the first-verse has no dark matter and cannot expand and the first sub-universes have a gravity appearing as a "mere force" or "just a force". Due to their continued interaction in the first-verse they expand at a very slow rate.

This would mean that the dark matter is "zero matter" and the ancestor of both matter and anti-matter.

With every sub-universe having a weaker gravity we can conclude that there will be a "last-verse" that will consist of "overall time" as well. This is actually the first verse too, thus the Universum forms a "circle".

We can therefore argue that the first-verse contains the entire Universum within it. Having no space or gravity, the sub-universes can expand. It shall be argued later on that the first-verse has three-dimensional time; this is the "overall time" mentioned before.

The root of the Universum

The root of the Universum is infinitely small in size and it has no mass:

$$\mathrm{m} = 0 \quad (51)$$

It has no super mass:

$$\mathrm{m}^2 = 0 \quad (52)$$

Yet it has something that I will define as "hyper-mass" for now, and it is the sum of all the super masses reacting within the Universum.

$$\mathrm{m}^3 = \sum \mathrm{m}^2 \quad (53)$$

Since super mass of a sub-universe reacting with the universe, forms time as a fourth dimension by making the gravitons extra-dimensional; therefore gravity appearing as a consequence, we see that this "hyper mass" is actually time itself.

$$\boldsymbol{m^3 = \sum m^2 = T} \quad (54)$$

The root is "time-massive" and due to that nature it always existed, it doesn't have a beginning or an end.

The time-massive root is held in such a state by its own infinite force.

It has no spin or angular velocity or anything similar.

$$\boldsymbol{Root = F_{inf} \cdot T^{\sum m^2}} \quad (55)$$

The sum of super masses functions as time and as an exponent of time, hence making it "time-massive".

Here we realize that "overall time" is actually three-dimensional time, only its three-dimensionality doesn't exhibit in the same manner it does with space.

Time is three-dimensional from the point of view of the Universum. The direct consequence of that is the appearance and interaction of mass, super mass and hyper mass in the Universum.

The root of the Universum shouldn't be thought of as a "singularity of time". It was already explained earlier in the theory that a singularity is an un-free body; this is a "time-massive" compacted into a single point by an infinite force within it therefore, not influencing if from the outside.

This "overall time" or "three-dimensional time" manifests as the first universe, the "first-verse". Within it are second-verses and within them, held by the force of their interactions, is the entire spectrum of the Universum.

The first-verse functions as the body of the Universum, as three-dimensional time.

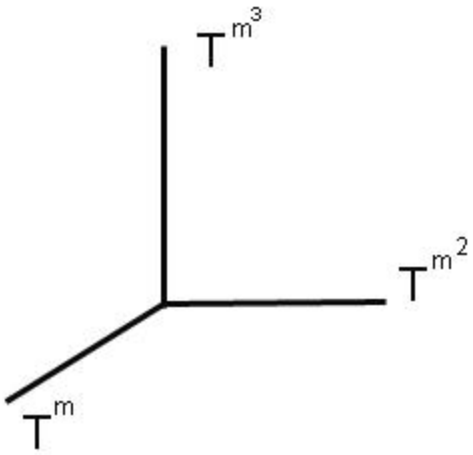

Figure 6. Overall time

Having in mind that these sums of super masses already existed in the root before the formation of the first-verse; it seems like the entire Universum functions as a perfect physical extension of the time-massive root.

One might define it as a "perfect physical consciousness" but what we define as "consciousness" is entirely different from this, making our consciousness seem as primitive. The term "consciousness" is insufficient but no other term is suiting. It would be the only example of perfection in the entire Universum if this assumption is correct but there is no possibility of it having a human like psyche.

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