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# Super theory of relativity-explanation to 'rest mass of photon', 'quantum entanglement' and 'consciousness'

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**Abstract:** Siva's theories explained the necessity of new theory for description of the Universe, space, time, space-time and matter. It explained the formation of 'space time continuum' in terms of 'Films of the universe' and an effect of consciousness associated to living things. Thus it is required to bring consciousness in to physical laws and transformations. The relation between physical world and consciousness has been analyzed clearly and explained that consciousness, if we interpret in physics, must be an inertial frame of reference which can be transformed in to inertial frames defined by 'Special Theory of Relativity'. It is possible only by changing the signal velocity from 'c' to ' $c\sqrt{2}$ '. Thus the 'Special Theory of Relativity' has been modified and named as 'Super theory of Relativity'. The relativistic factor for it is also calculated as  $[1+(v^2/c^2)]^{1/2}$  where  $v = v_0 [1 - (v_0^2/c^2)]^{1/2}$  here  $v_0$  is its absolute velocity. The necessity to adopt a new signal velocity which is greater than that of light has been discussed and the 'Principle of Relativity' and 'Principle of simultaneity' which are basics for transformation has been applied to interpret it in terms of relativity. It has been concluded that velocity of light is a part of signal velocity and photon will have rest mass. It says that the observable velocity is a result of absolute velocity multiplied by relativistic factor for 'Super Theory of Relativity'. Thus infinite signal transformation is introduced for transformation between Inertial frames of reference. Infinite signal velocity will explain the 'Quantum entanglement' in terms of transformation of physical laws from one frame to another as explained in 'Special & General Theories of Relativity'.

**Keywords:** Special Theory of Relativity, Siva's Theories, Film Theory of Universe, Double Relativity Effect, K-Suryon, Super Theory of Relativity, Consciousness, Rest Mass of Photon, Quantum Entanglement

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## 1. Introduction

Siva's theory of 'Quantum Gravity'[1], 'Siva's classical equations for space time' [2] predicted a particle 'K-Suryon'[3]. It is the basic building block of mass in this four dimensional space time continuum. Its origin described as space with time zero. Space is made up of consciousness. And consciousness is separated by 'nothing' (space zero, time zero, energy zero and mass zero thing). This is termed as first film of the universe. 'Film theory of Universe'[4] says that the universe is made-up of films which change for every  $7.6813002 \times 10^{-44}$  sec. A film of universe is a position of complete universe at a moment of time in four dimensional universes which cannot be divided further. In other words, quantum of 'four dimensional time'. Thus two films of universe will be separated and changes within a span of time  $7.6813002 \times 10^{-44}$  sec. But the universe what we are observing is a continuous one? How is it possible? If it is separated in to

films, what happens to the universe in-between any two films? We know that quantum effects will be started in between two films. But each and every film will be existed with complete universe and the size will be reduced as it goes down to size of virtual K-Suryon[3] which is the last stage. Here it contains as combination of 'consciousness' and 'nothing'. In the next film it will be developed to start interaction. After  $10^{43}$  films it will reach a stage that will exactly obeys the 'cause and effect rule' of universe and for living things (a living thing is a nonliving thing with consciousness) it seems like a continuous flow of time and events in this four dimensional continuum. Thus conventional four dimensional universe is an effect of consciousness attributed to 'non living things'. If there is no consciousness the universe is 'nothing' (space zero, time zero and mass zero thing)

It is required to bring consciousness in to physical laws and transformations. The relation between physical world and consciousness has been analyzed clearly and explained the

consciousness. If we interpret consciousness in terms of physics, it must be an inertial frame of reference which can be transformed in to inertial frames defined by special theory of Relativity.

## 2. Discussion

In the first film of universe, only 'consciousness' and 'nothing' (space zero, time zero, energy zero) exists. Points of 'consciousness' will be separated by points of 'nothing'. Let us find out how the interactions will be processed for transformations from one to another in the next films. A signal is required to interact between this point of consciousness and 'nothing'. What is the signal? How it will be existed in observable universe in this four-dimensional continuum?

Let us see significance of 'signal' for transformation of reference frames

"Special theory of relativity started with 'principle of relativity' and 'principle of simultaneity'. To satisfy both the principles, the signal velocity has been considered as velocity of light. This is maximum velocity and invariant for all inertial frames of reference. Most of the experiments proved special theory of relativity."

What is 'signal'?

"A signal must transform complete properties of a reference frame to another reference frame.

It should be invariant of reference frame. That is the reason physics adopted 'c' as signal. 'Light velocity is constant for all Inertial frames of Reference' is a postulate of Special theory of Relativity."

"A signal must be a maximum velocity that can be used for transformations. All other velocities should be compared to that velocity. If we consider a maximum and constant signal velocity, that must have a space zero, time zero, mass and energy zero thing. Thus light has been chosen as signal velocity."

Then what is the difference between this 'nothing' and photon. Why we are experiencing it with energy?

Because,

The nothing has been considered as a combination of positive and negative energies so that in any stage of time it will be nullified and remains with 'zero energy' (i.e. nothing).

What is the meaning of any stage of time?

Any stage of time represents local time mentioned for inertial frames of reference with varying time.

As per Special Theory of Relativity, principle of simultaneity holds because of invariance of signal. But here what is the signal? It is not 'c' (velocity of light) since 'c' is not 'nothing' it is energy of photon. But 'c' is also a threshold velocity which is invariant in all Inertial Frames of Reference. Thus we have to consider two signals. One is 'c' and another is 'nothing'.

After reviewing all theories of relativity including 'General Relativity', we can come to a conclusion that velocity of light 'c' is restricted for our space time.

Now, how can we define Space-time? in which signal velocity is 'c' and the other stage of time in which the signal is

'nothing' is separated from 'space-time'.

What is the difference? How to do transformation from one to other?

The transformation is possible by a 'signal only' that must be invariant in both the stages i.e. space-time and 'nothing'.

For these transformations let us consider the 'Double Relativity Effect'.

"As per Double relativity Effect [4] light or photon is a particle with 'space zero', 'time zero' and 'mass zero' particle. It is nothing but a reference frame with space zero, time zero and will be at a constant velocity relative to any inertial frame of reference mentioned in Special theory of Relativity.

Let us assume a massive particle in this frame. Then the mass will have a kinetic energy associated to that reference frame existed with a relative velocity 'v' and 'v' is constant for all inertial frames of reference. To maintain its constancy relative to all inertial frames of reference, it must contain kinetic energy.

At this stage, if we keep a 'mass zero' object with 'constant velocity' for all inertial frames of Reference, that is space, zero mass zero thing (nothing) with velocity, it is nothing but photon. It has satisfied one aspect that it is 'constant for all inertial frames of reference'. But the other aspect is - 'it contains energy'. How it contain energy? That is due to the fact that if we witness it from our four dimensional universe as explained in Fig.1, it will have energy but with respect to its absolute velocity, it will not have any energy. So when we observe it through four dimensional continuum, some effect (Double Relativity Effect) is influencing it and it will be visualized with some energy. Actually it is the negative energy equal to its kinetic energy and visualizing as positive energy through this four dimensional universe. (In this paper we understood that is due to the effect of consciousness) Now once again let us recollect the concept.

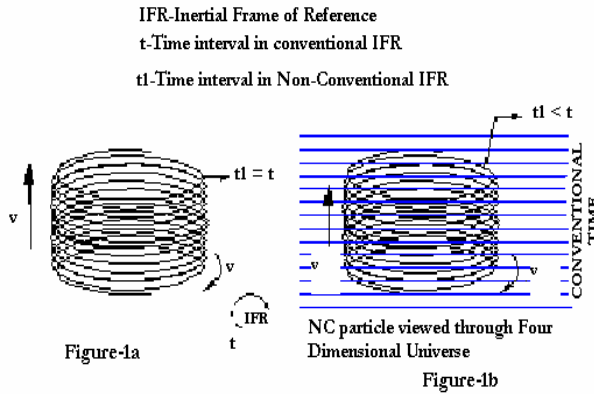
### 2.1. Double Relativity Effect [4]

According to special theory of relativity, a light like signal can be transferred to an inertial frame of reference to an inertial frame only. 'Principle of relativity' and 'principle of simultaneity' synchronizes these two reference frames. But in case of photon, with an absolute velocity (velocity is constant for all inertial frames of reference) and having space zero, time zero mass zero (nothing), interactions are possible with all the reference frames defined by Special theory of Relativity.

How is it possible?

It is possible by imagining an Inertial frame of Reference with equal velocity to the absolute velocity of photon. But these absolute velocity and relative velocity are separated by a layer of conventional four dimensional world (In this paper it is confirmed as the effect of consciousness). Fig.1 explains the way living things (associated with consciousness) observe the photon through the layer of four dimensional world. But here the negative energy of photon assumed as kinetic energy in rotation for convenience and the positive energy in linear motion. If we consider a photon alone, with its absolute velocity, without the interference of four dimensional time as a

layer, due to the effect of this layer it seems like a positive energy due to consciousness effect. Now photon will have both the energies equivalent to double to its kinetic energy (since the negative energy which is compensating positive energy in its absolute frame is viewed as positive energy in this four dimensional universe due to the effect of consciousness).



**Fig 1.** Absolute velocity (NC velocity) –Through Our Four Dimensional Space-time

Let us see the relativity behind this idea. Fig.1-a shows photon assumed as a particle with zero mass and with a constant velocity for all frames of reference and also contain a negative energy exactly equal to its kinetic energy. As the constant velocity reduces or tends to zero, the negative energy also becomes zero and kinetic energy also zero. So only rest mass will be there. Here if we think rest mass is zero, its 'nothing'. If we think it in reverse way we can imagine a 'zero rest mass' with a constant velocity with kinetic energy and equal negative energy. This is the reason photon will have constant velocity for all inertial frames of reference. Now this velocity is an absolute velocity. If we view it through our four dimensional universe, the negative energy will be viewed as positive energy. Thus it will have both energy and 'constant velocity' with respect to this four dimensional universe.(Due to consciousness)

Fig..1-b shows the view of that particle for four-dimensional universe. Fig.2 shows the relativity behind it. It shows the conversion of absolute reference frames in to relativistic frames (The Double Relativity Effect).

In Fig.2 if the observer at 'A' in the plane AB calculate the velocity he will find that the particle is travelled to a distance 'L<sub>1</sub>' in time 'T'. The plane DC or the point 'D' shows the imaginary observer for which length travelled is 'L<sub>2</sub>' in time 'T'. Therefore 'non-conventional' velocity ' $V_{nc}$ ' =  $L_2/T$  i.e. velocity relative to imaginary observer at 'D'. Now it is obvious by Fig.2

$$L_1/\gamma = L_2 \text{ where } \gamma = 1/\sqrt{1-(V_{nc}/c)^2}$$

$$\text{Now } V_{nc} = L_2/T$$

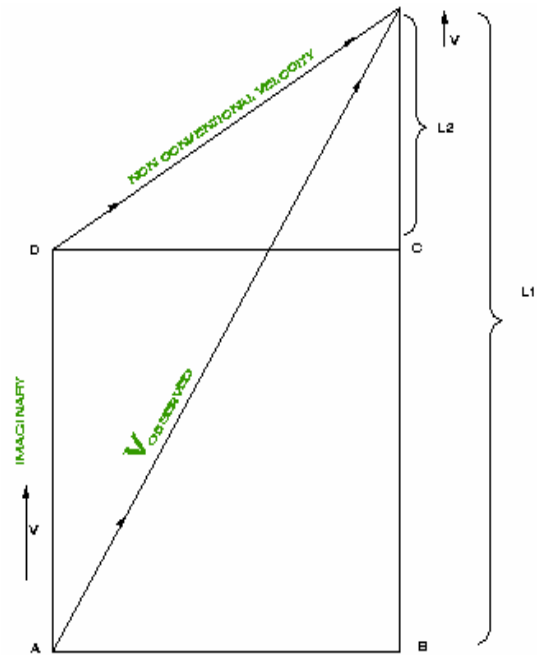
$$= L_1/\gamma T$$

$$= V_{\text{observed}}/\gamma$$

$$\therefore V_{\text{observed}} = V_{nc} \gamma \quad (1)$$

At small velocities ' $V_{\text{observed}} = V_{nc}$ '.

Here  $V_{nc}$  is 'Non-Conventional' velocity or 'absolute' velocity of photon



**Fig 2.** Conversion of absolute velocity in to relativistic velocity (The Double Relativity Effect)

This equation of Double Relativity Effect  $V_{\text{observed}} = V_{nc} \gamma$  will be utilized to modify special relativity.

"From EPR paradox itself, Einstein is not agreeing with quantum mechanics. The wave function collapse for a single photon is not satisfying it. From then Einstein was saying that quantum theory is not sufficient theory.[5]"

If we think about quantum entanglement, it says that the particle pairs will react with its pair at a distance automatically means the spatial distance is transformed with in no time .Means, the velocity of the signal is infinite? But theory of relativity restricts signal velocity to 'c' only.

In order to satisfy both the conditions i.e. theory of relativity and quantum mechanics we have to modify the theory of relativity.

## 2.2. Suggested Modification in Special Theory of Relativity

We know that the signal velocity for conventional 'Space time is 'c' i.e. velocity of light

Signal velocity for another frame say 'consciousness frame' is ' $c\sqrt{2}$ '

Why should we keep it ' $c\sqrt{2}$ ' ?

1. ' $c\sqrt{2}$ ' is more than 'c' so this will be the maximum signal velocity(Special Theory of Relativity's postulate is 'signal should be maximum velocity')
2. It should obey ' $c\sqrt{2}$ ' should be equivalent transformation to 'c' of space time.
3. If we substitute ' $c\sqrt{2}$ ' instead of 'c' in Relativistic factor of Special Theory of Relativity-

$$\gamma_c = \frac{1}{\sqrt{1 - \left\{ \frac{v_c^2}{2c^2} \right\}}} \quad (2)$$

4. And  $c\gamma_c = c\sqrt{2}$ . (As per Double Relativity Effect,  $v\gamma$  = observed velocity. Here velocity is absolute and constant for all inertial frames of reference)

Thus  $\gamma_c = \sqrt{2}$

Substitute  $\gamma_c = \sqrt{2}$  in equation(2)

We will get

$$\sqrt{2} = \frac{1}{\sqrt{1 - \left\{ \frac{v_c^2}{2c^2} \right\}}}$$

$$\therefore (v_c^2/2c^2) = 0.5$$

$$\frac{v_c^2}{2c^2} = \frac{1}{2}$$

$$\therefore v = c$$

Let us say this velocity is velocity in 'conscious frame transformations' and termed as ' $v_c$ '

Now we have ' $v_c$ ' as velocity and relativistic factor related to conscious frame ' $\gamma_c$ ' and the signal velocity is  $c\sqrt{2}$ .

$$\text{Where } \gamma_c = \frac{1}{\sqrt{1 - \left\{ \frac{v_c^2}{2c^2} \right\}}}$$

Now let us see the other frame which is space time frame. In this -

Velocity is ' $v_s$ ' and relativistic factor is ' $\gamma_s$ ' and signal velocity is ' $c$ '.

Where

$$\gamma_s = \frac{1}{\sqrt{1 - \left\{ \frac{v_s^2}{c^2} \right\}}} \quad (3)$$

Now in order to synchronise these two frames, to obey principle of relativity and principle of simultaneity of basics of Special Theory of Relativity

$$\gamma_c = \gamma_s$$

$$\{v_c^2/2c^2\} = 1 - \{v_s^2/c^2\}$$

$$\text{Therefore } \{v_c^2/2c^2\} = \{v_s^2/c^2\}$$

$$v_c/c\sqrt{2} = v_s/c$$

$$\text{We have } v_c = v_s\gamma_c$$

$$\therefore \gamma_c = \sqrt{2}$$

$$\therefore \sqrt{2} = \frac{1}{\sqrt{1 - \left\{ \frac{v_c^2}{2c^2} \right\}}} \quad (4)$$

$$\{v_c^2/2c^2\} = 1/2$$

$$v_c^2/2c^2 = 1/2$$

Therefore  $v_c = c$  where as signal velocity is  $c\sqrt{2}$ .  $v_s = c/\sqrt{2}$  where as signal velocity is ' $c$ '

Now let us find the relativistic factor for this synchronization.

We know that the velocity in space time will be enhance by factor  $\gamma_c$ .

Let us suppose this will be enhanced by factor ' $x$ '.

Then at velocity of light we will get  $c\gamma_o = xc$  here ' $xc$ ' will be the signal velocity to obey principle of relativity and simultaneity. Here velocity is observed velocity from the reference frame of special relativity

Therefore

$$\gamma_o = \frac{1}{\sqrt{1 - \left\{ \frac{v_o^2}{x^2 c^2} \right\}}} = x$$

$$1 - \left\{ \frac{v_o^2}{x^2 c^2} \right\} = \frac{1}{x^2}$$

$$x^2 c^2 - v_o^2 = c^2$$

Therefore

$$x = \sqrt{1 + \frac{v_o^2}{c^2}}$$

$$\gamma_o = \sqrt{1 + \frac{v_o^2}{c^2}} \quad \text{Since } \gamma_o = x \quad (5)$$

$$\text{At } v_o = c, \gamma_o = \sqrt{2} \text{ and } v_o = 0, \gamma_o = 1$$

This is confined to consciousness frame within the frame work of 'special theory of relativity'.

And we have equation (2) i.e

$$\gamma_c = \frac{1}{\sqrt{1 - \left\{ \frac{v_c^2}{2c^2} \right\}}}$$

This is the same reference frame within the frame work of 'Super theory of Relativity'.

Both the equations (5) and (2) are similar equations. Only the difference is - equation (5) explains the observed velocity and equation (2) represents the absolute velocity and resultant of 'double relativity effect' within the frame work of special theory of relativity. Equation (5) is transformation of equation (2) in to 'Super theory of relativity'. This is the perfect transformation from special theory of relativity to 'Super theory of Relativity' without violating 'principle of Relativity' and principle of simultaneity.

Therefore  $v_c = v_o = c\sqrt{2}$  which must be the signal velocity for super theory of Relativity.

The relativistic factor is  $\gamma$  and is equal to

$$\sqrt{1 + \frac{v_o^2}{c^2}}$$

If we observe a velocity ' $v_o$ ' to find its consciousness velocity ' $v_c$ '

$$v_c = v_o / \gamma_o$$

Where

$$\gamma_o = \sqrt{1 + \frac{v_o^2}{c^2}}$$

More elaborately-

"Special Theory of Relativity can be modified in to 'Super theory of Relativity' with concept of 'Double Relativity Effect'. Consciousness is the prime concept for the necessity of introduction of this theory in to physics.

Thus Theory of Relativity can be modified with the modification of its two postulates [6].

- 1 Laws of electrodynamics and optics will be valid for all frames of reference for which the equations of mechanics hold good. ("Principle of Relativity")
- 2 Light is always propagated in empty space with a definite velocity 'c' which is independent of the state of motion of the emitting body.[6]

For velocities greater than that of light our deliberations become meaningless; we shall, however, find in what follows, that the velocity of light in our theory plays the part, physically, of an infinitely great velocity [6].

Thus, when  $v = c$ , ' $\gamma$ ' becomes infinite. Velocities greater than that of light have—as in our previous results—no possibility of existence [6].

What is essential is, that the electric and magnetic force of the light which is influenced by a moving body, be transformed into a system of co-ordinates at rest relatively to the body. By this means all problems in the optics of moving bodies will be reduced to a series of problems in the optics of stationary bodies [6].

Thus Special Theory of Relativity has proposed that light velocity is maximum and constant for all inertial frames of reference.

We are modifying that maximum velocity that can exist in this nature is ' $c\sqrt{2}$ '. It must be the signal velocity instead of 'c' and all the velocities must be compared to it. 'c' is the velocity equal to the constant used in Maxwell theory and the same has been carried to Special Theory of Relativity. When we think of origin of space time, it is obvious that it is at an inertial frame moving with velocity of light relative to consciousness frame.

### 3. Rest mass of the photon

We know maximum velocity is  $c\sqrt{2}$  and all the velocities should be compared to it. At the same time velocity of light 'c' is also a constant velocity. So signal velocity i.e.  $c\sqrt{2}$  is  $\sqrt{2}$  times than that of velocity of photon and as per 'Super Theory of Relativity', the relativistic factor is

$$\sqrt{\left[1 + \frac{v_0^2}{c^2}\right]}$$

So it can contain a rest mass since it is not the maximum velocity.

How can we find its rest mass?

We know that, as per modified Relativity or Super Theory of Relativity, signal velocity is  $c\sqrt{2}$  and relativistic factor is  $\gamma_0$ . So if rest mass of photon is ' $m_p$ ' the mass will be  $m_p \gamma_0$  and velocity of photon is 'c'

Therefore the total mass of photon

$$m_c = m_p \sqrt{1 + \frac{v_0^2}{c^2}}$$

At  $v = c$ ,  $m_c = m_p \sqrt{2}$ .

Therefore the rest mass of photon  $m_p = m_c / \sqrt{2}$

We know as per Special theory of Relativity the total energy of photon which is at velocity of light

$$E^2 = m_p^2 c^4 + (m_p c)^2 c^2 = m_c^2 c^4$$

Implies  $E = m_c c^2$

Thus we can say photon must have a rest mass equivalent to total mass (equivalent to its total energy) divided by factor  $\sqrt{2}$  (here we have considered that it always moves with velocity of light.)

#### 3.1. Kinetic Energy of Photon

We have

$$m_c = m_p \gamma_0 \text{ where } \gamma_0 = [1 + (v^2/c^2)]^{1/2}$$

If photon's rest mass is  $m_p$  then its kinetic energy at velocity 'c'  $= (1/2) m_p \gamma_0 c^2$

This is equal to the difference of energies of total energy existed ( $m_c c^2$ ) at velocity 'v' and the initial energy in the form of rest energy ( $m_p c^2$ ).

Mathematically

$$(1/2) m_p \gamma_0 v^2 = (m_c c^2) - (m_p c^2) = m_p c^2 (\gamma_0 - 1)$$

Therefore

$$\frac{(\gamma_0 - 1)}{\gamma_0} = \frac{v^2}{2c^2}$$

$$\frac{1}{\gamma_0} = 1 - \frac{v^2}{2c^2}$$

$$\gamma_0 = \left(1 - \frac{v^2}{2c^2}\right)^{-1}$$

The derived factor is not of 'Modified Theory of Relativity' But it is The square of Relativistic factor mentioned for signal velocity ' $c\sqrt{2}$ ' instead of 'c' i.e equation(2)

$$\gamma_c = \left(1 - \frac{v^2}{2c^2}\right)^{-1/2} \quad (6)$$

So the same equation can be written as

$$(1/2) m_p (v \gamma_c)^2 = (m_c c^2) - (m_p c^2) = m_p c^2 (\gamma_c - 1)$$

This equation(2) is according to 'Double Relativity Effect' The same equation can be written as

$$\begin{aligned} (1/2) m_p \gamma_0 v^2 &= (m_c c^2) - (m_p c^2) \\ &= m_p c^2 (\gamma_0 - 1) \end{aligned}$$

Physically it means:

1. "Modified Relativity i.e 'Super Theory of Relativity' is nothing but 'Double relativity effect with signal velocity  $c\sqrt{2}$  and velocity of light comparable to it and follows all aspects of Special Theory of Relativity.
2. Here involvement of 'consciousness frame' is compulsory and application of 'Double Relativity Effect' is required.
3. In 'Double Relativity' the special relativity applied twice at same frame with signal velocity  $c\sqrt{2}$ . Thus its relativistic factor will be  $\gamma_c$ . And 'v' is actual velocity in one frame and in 'double frames' it will become ' $v\gamma_c$ '
4. Now the same has been transformed in to reference frame of 'modified Theory' or 'Super Theory of Relativity'. After considering 'principle of Relativity' and 'principle of simultaneity', the Special theory of Relativity has been modified as 'Super theory of Relativity'. The relativistic factor is  $\gamma_o$ . Mass is  $m_p \gamma_o$  and 'v' is observed velocity.
5. Thus 'Super Theory of Relativity' is a developed 'Special Theory of Relativity to transform the reference frames of 'Special Theory of Relativity' (elaborates the transformation of laws of physics from one reference frame to another) to the frame of consciousness. The formation of 'Minkowsky space', 'General Relativity' and 'space time continuum' is an effect of these transformations only. It is a consequence of 'Double Relativity Effect'. 'Super theory of Relativity' is direct application of 'Double Relativity Effect' between consciousness and 'material or physical' frames of reference.
6. The modified special theory of Relativity i.e 'Super Theory of Relativity' says that photon will have a rest mass of  $h\theta/(c^2 \sqrt{2})$ . Where ' $\theta$ ' is frequency of photon. Also it explains that the space zero, mass zero, time zero thing termed as 'nothing' will consist energy in this space time equivalent to energy of its rest mass( $m_p$ ) moving with velocity 'c'. To maintain its constancy, the rest mass will have a momentum equivalent to  $m_p c$  so that total energy is  $E = m_c c^2$  where  $m_c = m_p \sqrt{2}$ .

#### 4. Quantum Entanglement is an Affect of Super Theory of Relativity

Quantum entanglement is a quantum mechanical phenomenon in which the quantum states of two or more objects have to be described with reference to each other, even though the individual objects may be spatially separated.

As a result, measurements performed on one system seem to be instantaneously influencing other systems entangled with it.

But quantum entanglement does not enable the transmission of classical information faster than the speed of light.[7]

Einstein believed for a purely algebraic theory. Einstein maintained that quantum mechanics is physically incomplete and logically unsatisfactory. In "The Meaning of Relativity",

Einstein wrote, "One can give good reasons why reality cannot at all be represented by a continuous field. From the quantum phenomena it appears to follow with certainty that a finite system of finite energy can be completely described by a finite set of numbers (quantum numbers). This does not seem to be in accordance with a continuum theory and must lead to an attempt to find a purely algebraic theory for the representation of reality. But nobody knows how to find the basis for such a theory." If time, space, and energy are secondary features derived from a substrate below the Planck scale, then Einstein's hypothetical algebraic system might resolve the EPR paradox. [8]

In the same context we can refer for A. Einstein, B. Podolsky and N. Rosen's view on physical reality and quantum mechanics for better understanding of physical meaning of Quantum interactions.[9]

"From EPR paradox itself, Einstein is not agreeing with quantum mechanics. The wave function collapse for a single photon is not satisfying it. From then Einstein was saying that quantum theory is not sufficient theory.[5]

If we think about quantum entanglement it says that the particle pairs will react with its pair at a distance automatically means, the spatial distance is transformed with in no time means, the velocity of the signal is infinity? But theory of relativity restricts signal velocity to 'c' only.

Experimental aspect and information regarding 'spooky actions' at long distances involves in quantum entanglement explained in some research works [10]

All these ideas of quantum entanglement are restricted by maximum velocity of signal transmission i.e. velocity of light 'c'. But as per 'Super theory of Relativity', maximum velocity is ' $c\sqrt{2}$ ' and even velocity of light is comparable to it. The relativistic factor 'g' for super theory of Relativity is  $[1+(v^2/c^2)]$  where  $v = v_o \{ [1 - (v_o^2/c^2)] \}^{-1/2}$  here  $v_o$  is its absolute velocity. Here 'v' is the observed velocity that can be infinite since observed velocity = absolute velocity multiplied by factor ' $\gamma$ '. If signal velocity is infinite between two pairs of a particle, whatever may be the spatial distance between them the transformation as a result, measurements performed on one system seem to be instantaneously influencing other systems entangled with it and the effect of measurement happens instantly. Thus Special theory of Relativity itself is giving explanation to Quantum Entanglement.

In order to satisfy both the conditions i.e. theory of relativity and quantum mechanics we have to modify Theory of Relativity.

#### 5. Astonishing Result of 'Super Theory of Relativity'

Super Theory of Relativity is a consequence of consciousness (life) associated to living thing. 'Living thing' without consciousness (life) will become 'non-living thing'.

Super theory of relativity is defined for observable velocities for which there exist absolute velocities The relativistic factor ' $\gamma$ ' for super theory of Relativity is

$[1+(v^2/c^2)]^{1/2}$  where  $v = v_0 [1 - (v_0^2/c^2)]^{-1/2}$  here ' $v_0$ ' is its absolute velocity. This absolute velocity is constant for all the frames of Special theory of Relativity. If we call it as consciousness frame, as described in theory of Relativity the absolute velocity of consciousness is zero (rest velocity) and is constant even to other consciousness frame at rest. Means, consciousness frames are separate frames which cannot be combined with one another. Also, all these are in the same inertial frame of reference. Time duration between two ticks of clock for all consciousness frames will be same and will differ with the Inertial frames of Reference of Special Theory of Relativity. In other words, clocks in Inertial frames of Reference of Special Relativity will encounter time dilation and differs with consciousness frames. But all the consciousness frames (all living things) will follow only one clock that will differ with the clocks of Inertial Frames of Special Theory of Relativity.

Time dilation is applicable for reference frames of Special Theory of Relativity (for matter related objects). It is not applicable for the biological reactions inside living things.

Thus twin paradox cannot be a paradox. It will not affect the age of the twins. Physical or material objects will be affected by time dilation and 'Special theory of Relativity'. A living thing is a nonliving thing entrapped by consciousness. Thus the clock inside the body, we can say all events related to biological forms will not be affected by time dilation of 'Special Theory of Relativity' but transformations are possible within the scope of 'Super Theory of Relativity'. The time duration between two ticks of a clock in the frame of 'Special Theory of Relativity' is more than the time duration between two ticks of the same clock in consciousness frame (attributed to living things) with relative velocity zero (when both are at rest relative to each other). The transformations are explained by 'Super theory of Relativity'.

## 6. Conclusions

- One of the postulates of Special Theory of Relativity i.e. 'velocity of light is maximum' has been changed and a new modified theory of relativity has been proposed. For convenience named it as 'Super Theory of Relativity'
- As per 'Super Theory of Relativity' the maximum velocity is ' $c\sqrt{2}$ ' where as in Special Theory of Relativity it is ' $c$ ' only.
- We cannot avoid the importance of 'consciousness' which is the main constituent that differentiates the 'living' and 'non-living' things of the universe. In order to incorporate 'consciousness' in to physics 'Super theory of Relativity' has been introduced to physics.
- Special theory of Relativity explains the transformations between physical objects or frames where as 'Super Theory of Relativity' explains the interactions between both the frames of 'Special theory of Relativity' and space, time, events and physical matter entrapped by consciousness.
- The relativistic factor for Special theory of Relativity is  $1/[\sqrt{1 - (v^2/c^2)}]$  Where as The Relativistic Factor for 'Super Theory of Relativity'  $[\sqrt{1 + (v^2/c^2)}]$  where ' $v = v_0 [1 - (v_0^2/c^2)]^{-1/2}$ ' here  $v_0$  is its absolute velocity.
- The 'Special theory of Relativity' must be replaced by 'Super Theory of Relativity'
- 'Special Theory of Relativity' emphasizes that 'photon must have rest mass equivalent to  $h\nu/(c^2\sqrt{2})$ . Where ' $\nu$ ' is frequency of photon in the form of energy. The momentum of photon is consequence of this rest mass moving with velocity ' $c$ '
- The Relativistic Factor for 'Super Theory of Relativity' is  $[\sqrt{1 + (v^2/c^2)}]$  where, ' $v = v_0 [1 - (v_0^2/c^2)]^{-1/2}$ ' here  $v_0$  is its absolute velocity supports the existence of signal velocity more than that of light which resolves problem of quantum entanglement where the communication happens instantly with infinite signal velocity applicable for transformations.
- As per 'Super theory of Relativity' the time dilation will not affect time frames of living things and aging will not be affected with relative velocities. Only observations will be affected. Thus twin paradox cannot remain a paradox for 'Super Theory of Relativity'.

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