

Relation between Planck Length and Origin of Consciousness in Life Sciences-A Mathematical Proof

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Abstract A novel attempt has been made to define the difference between living and non living things in terms of physics. This is the relation between the bio energy in the form of consciousness associated to any living thing and Planck length of quantum physics. Consciousness, a parameter which differentiates living and non living thing has been explained by physics with the use of 'Siva's equation of consciousness'. 'Planck length' of Quantum physics has been derived by substituting the value of 'd' mass of 'K-Suryon' in 'Siva's equation of consciousness'. The final result is a substantial mathematical proof says that the consciousness wave originates from a point in our four dimensional space time continuum whose diameter is 1.6 times higher than 'Planck length' of physics. This consciousness wave obeys all the definitions of electromagnetic wave without collapsing in to Planck hole. This will be useful in making substantial theories of consciousness and 'Neuro Quantology'.

Keywords: quantum gravity, cosmology, consciousness wave, K-Suryon, plank length

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1. Introduction

Let us consider some of the concepts discussed in already published works.

1.1. Film Theory of the Universe [1,2]

As per this concept, the universe in which we are living is a result of slide show of films changing at every 7.6813×10^{-44} seconds. There is no link between these films. The events are prefixed and programmed. It is just like a movie in which 16 photo films will change in every second since it is the caching speed of human eye. Universal films are also similar to movie films. All the films are separate. But universe as a whole is a continuous flow of events.

1.2. Heart of God Model of the Universe [2]

As per this theory, four dimensional 'space-time' is like a three-dimensional fluid. It is in almost spherical shape. It is existed as it is. It has no beginning or no ending. It fluctuates for every 7.6813×10^{-44} sec. (Time duration of film change as described in 'Film theory of the Universe.) In each fluctuation, it creates matter. Means, pumps the matter in to this universe. It is similar to a human heart which fluctuates 72 times every minute to pump the blood. So this is called as "HEART OF THE GOD" The density of the matter it pumps is constant. The calculation of density of matter distributed is almost equal to the results of 'steady state theory'. According to this

theory, the matter distribution is in order of 4.542157×10^{-42} kg cum⁻³sec⁻¹.

1.3. Space Time Equivalence Equation [3]

"Heart of the God model of cosmology" says that the four dimensional 'space-time' is like a three dimensional fluid. The paper entitled "New cosmological constants" introduced the "Siva's constant-K" with a value 2.0275×10^2 sqmt/sec. Combined analysis of both the concepts concluded that space and time are interchangeable and quantitatively "t" seconds of time can be converted in to a space with a radius of $\sqrt{(4\pi t^3)}$ meters. This physical concept is use full for physicists, cosmologists and researchers working on Grand Unification Theories and Consciousness research.

1.4. Siva's Theory of Quantum Gravity [4]

With the help of 'space time fluid' concept and 'Siva's equation for space time & matter' it is concluded that the space time fluid density of a mass varies with distance from its centre. Not only that, space time density of any mass will be affected by any other mass exists in its space-time fluid's vicinity. An equation has been derived to explain the concept. Conceptual analysis of this equation concluded a new model of quantum gravity showing that the space time fluid which plays a major role in creating gravity effect and is quantized. There will be quantized energy levels of space time fluid around a mass. Their energy distribution depends on the distance from the mass. Particles with mass exist in a specific energy level only. If the energy level is not suitable to its mass, that particle

will have a tendency to move either to lower level or higher level. And at the same time when a particle jumps from higher energy level to lower energy level, it loses energy and if it moves from lower to higher level it absorbs energy. This is similar to Bohr's atomic theory.

1. Every mass will have 'space time fluid density levels' around it. When any other mass placed in this space time fluid density levels, It will have a tendency to move to a lower level or to a higher level. These tendencies are described as Gravity and antigravity (expansion in case of Universe) forces.
2. The levels are spread in such a way that in one particular level one K-Suryon only will exist. These levels are quantized. Thus, if any particle travels to a lower level it releases a K-Suryon and travels to higher level it absorbs a K-Suryon. It is similar to Bohr's atomic model.
3. This model is a 'New model of Quantum Gravity' and is described by equation

$$\frac{\gamma_2 d^{16/3}}{m_1^8} = 2.717 \times 10^{-91}.$$

1.5. K-Suryon [5]

As per 'Heart of God model of the universe', the size of the universe is constant. Thus there is a limitation to the elastic nature of any electromagnetic wave after which the wave will form in to particle. This basic point concluded to the prediction of most elementary particles which is a basic building block of mass. The Mass creation is interlinked with space, time and space time fluid of the universe and a new theory of Quantum Gravity has been introduced to explain the creation of mass. As per this new concept the space is a singularity and it converts in to space time fluid as per 'space time –equivalence equation'. This space time fluid converts in to mass and explained the creation with the help of Siva's Theory of Quantum Gravity'. Here a detailed analysis has been done to describe 'K-Suryon' completely.

1.6 Consciousness and Related Concepts

Let us review some of the sentences of previously published papers.

The Ages of Quantum Consciousness Mechanics Explained by the author how the school of thought is changing in the history of consciousness research [10]. He explained the concepts ideas of John von Neumann, William James, Ochsner's Experiments, The Penrose-Hameroff Theory, The Eccles-Beck Theory, Bohm Theory, Henry Stapp.

Even some of the authors explained the views of researchers working on consciousness denying time is a physical quantity associated to this universe. According to them 'time is a creation of consciousness' [9].

Hameroff (1996) conceptualizes the "Orchestrated Objective Reduction (Orch-OR) model of Penrose and Hameroff" consciousness as successive quantum superposition of the tubulin protein conformations in the brain. He proposes that with each conscious moment, "a new organization of Planck scale geometry is selected irreversibly". This leads to apparent illusion of time. Thus without consciousness, there would be no time [9].

Roger Penrose and Stuart Hameroff (Hameroff & Penrose, 1996) have proposed a quantum theory of consciousness that brings together three exciting but controversial ideas. The first pertains to the still-to-be-worked-out quantum theory of gravity. The second involves the famous incompleteness theorem of Gödel. The third rests upon the fairly recently discovered micro tubular structure of neurons [9].

Penrose proposes that the abrupt changes of the quantum state that are associated with conscious experiences are generated by the gravitational effects of particles of the brain upon the structure of space-time in the vicinity of the brain [9]. Gravitational effect was based on the presumption that the components of the brain critical to consciousness were functioning microtubules. Data pertaining to loss of consciousness under the influence of various anesthetic agents indicate that the proper functioning of microtubules is necessary for consciousness. But many things are necessary for consciousness [9]

An early quantum approach to the mind-brain problem was made by John Eccles (1990) who emphasized the entry of quantum effects into brain dynamics in connection with effects at nerve terminals. However, instead of building directly on the quantum rules and the profound conceptual relationships between quantum and classical mechanics he introduced a conscious biasing of the quantum statistical rules [9].

However, Eccles added a superstructure involving conscious "souls" that can exist apart from physical brains [9].

2. Consciousness & Physics with a Different Angle of View

Based on the concepts 'Double Relativity Effect' [1], 'Film theory of the Universe [1,2]', 'Heart of the God model of the universe' [2] and 'Space time equivalence' [3], it is concluded that consciousness is defined in terms of physics as "electromagnetic waves of velocity greater than that of light velocity at its originating point i.e with in 1.6 times diameter of planck length. When it comes out of this diameter, it will transform in to biological consciousness field surrounded by living organism." Also it is concluded that because of this high velocity the cell or any living organism will get the perception of events before their happenings. This phenomenon is one of the properties of feeling which is a constituent of consciousness. The degree or strength of consciousness can be measured and defined as the distance of point of generation of conscious wave from the center of space time fluid related to consciousness (d). It can be measured by the equation $V_{CW}^3 \cdot d^2 = \text{Constant}$. Where 'V_{CW}' is the velocity of consciousness wave observed [7].

This concept concluded the inter related concepts of physics with consciousness

- Time is nothing but Electromagnetic field
- We can say all the living things will have a sort of electromagnetic field contains whole of its physical existence as memory within the fraction of second as explained by 'Film theory of the universe.'
- Consciousness is defined in terms of physics as "electromagnetic waves of velocity greater than that

of light velocity at its originating point i.e with in 1.6 times diameter of 'planck length'. When it comes out of this specific diameter it will transform in to biological consciousness field surrounded by living organism."Also it is concluded that, because of this high velocity the cell or any living organism will get the perception of events before their happenings. This phenomenon is one of the properties of feeling which is a constituent of consciousness [7].

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The following points are also emphasized by this concept of consciousness in terms of physics.

- We know that the consciousness is originated from the space time fluid in between two films of 'film theory of the universe'
- We know that the surface of space time fluid is three-dimensional space.
- We know that the space of space time fluid gradually converting in to time and the ratio of space and time will be changed accordingly.
- Maximum length of wavelength is diameter of 'Heart of God' i.e 1.9147644×10^{22} mts.
- This is the wave length range of low frequency radio waves of this four dimensional universe, since it is the electromagnetic wave generated in four dimensional universe.
- As per the film theory, the least portion of time is 7.6813×10^{-44} sec. Time cannot be divided further. This is the duration below which consciousness plays role and it is the linkage between two films of the universe.
- A wave generated in this fluid (fluid in between interchanging range of space and time) is also an electromagnetic wave but the velocity will be more because the time measuring the distance travelled by wave will be reduced. As per physics, any wave generated on the surface of this fluid is an electromagnetic wave. It should follow wave equation $V = n\lambda$
- If this wave comes out of 'space time fluid' and emerges in the surface of space time fluid the wave will have velocity more than that of light in this four dimensional universe.
- We know that anything which moves faster than light will experience time reversal as per special theory of relativity. It reaches a distant point in space before it starts(time reversal)

3. Mathematical Proof

3.1 Derivation of 'Planck Length' by Siva's Consciousness Wave Equation[7]

Siva's Equation for consciousness [7] is

$$V_{CW}^3 \cdot d^2 = 1.534 \times 10^{-103}$$

[13]Reduced Planck constant

$$\hbar = 1.054571726 \times 10^{-34} \text{ m}^2 \text{ kg} / \text{sec}$$

As per established theories of quantum gravity 'Planck length' [13] = 1.6162×10^{-35} mts

Mass of K-suryon[5] $m = 4.6 \times 10^{-64}$ kg

If a K-Suryon converts in to an electromagnetic wave, the angular frequency $\omega = mc^2 / \hbar = 3.92033506 \times 10^{-14}$ (since $E = \hbar \omega$ obeys all quantum mechanics laws) where $c =$ velocity of light = 2.997925×10^8 mt/sec

Therefore wave length $\lambda = \hbar / mc = 7.647 \times 10^{20}$ mts.

$$\lambda / 2 = 3.8235 \times 10^{20}$$

We have Siva's equation for consciousness [7]

$$V_{CW}^3 \cdot d^2 = 1.534 \times 10^{-103}$$

If we substitute ' $\lambda/2$ ' as 'd' (since 'd' is radius only)

$$V_{CW}^3 \cdot [3.8235 \times 10^{20}]^2 = 1.534 \times 10^{-103}$$

$$V_{CW}^3 = [1.534 \times 10^{-103}] / [3.8235 \times 10^{20}]^2$$

$$V_{CW} = 1.016 \times 10^{-48} \text{ mt} / \text{sec}$$

Therefore wave length of

Consciousness wave = V_{CW} / ω

$$= (1.016 \times 10^{-48}) / (3.920 \times 10^{-14})$$

$$= 2.59 \times 10^{-35} \text{ mts.}$$

According to quantum gravity we have 'Planck length' = 1.6162×10^{-35} mts.

The 'planck length' derived by 'Siva's Consciousness Wave' \approx Planck length of established quantum gravity theories.

The 'planck length' derived by 'Siva's Consciousness Wave' is 1.6 times higher than the Planck length of established quantum gravity theories.

It concludes that the 'Siva's consciousness wave' will not collapse in to Planck black hole. It can be treated as an electromagnetic wave whose wavelength is a little bit higher than the plank length.

4. Discussion

As discussed in the present concepts and theories of consciousness, physics or quantum physics has to be defined clearly the concepts like space, time and space-time to make a substantial theory of consciousness which can withstand for experimental verification. Physics must have to explain all the physical appearance of this universe. All the applications should be explained by physics. Finally it should with stand for experimental verification.

Even Penrose -Hamoroff OR theory is also not profound because it has started on the basic that disturbances in neurons will effect gravity or space time surrounded by it.

But what is the source of these disturbances?

Above proof says that the disturbances are created by a wave generated from a point in space time just near to

diameter of 'Planck length'. Also it shows that such consciousness waves will exist at plank hole without collapsing in to that hole. And when it cut off from the matter of four dimensional universe, it remains as an electromagnetic wave of low frequency. So, we can say that point is heaven where all the consciousness stays as mentioned in mythology? In the same way is this consciousness wave a soul?

The EEG results and microtubule vibrations can be observed which are creating consciousness or the generation of Consciousness wave creates these disturbances.

Penrose summarized 'Curved Space Time Superposition's and Objective Reduction (OR) very nicely which explained the separation of space time in quantum scales. Thus the time of separation contributes as does the spatial displacement. Roughly speaking, it is the product of the temporal separation T with the spatial separation S that measures the overall degree of separation, and OR takes place when this overall separation reaches the critical amount. Thus he explained the super position of quantum states through quantum physics. In the same way Hameroff explained the tublin movements to explain quantum computations in micro tubules- Penrose-Hameroff Orch OR model' [12].

This shows that the interaction of tublin in microtubules is due to biological reactions and the superposition and de coherence occurs in plank scale due to this interactions this leads to consciousness. Penrose calculations and Hameroff interpretation to it explained the consciousness concept.

Now the question is -

How these biological interactions are happening in brain?

If we consider 'Siva's Equation for consciousness' the disturbances are from out side. It is not due to biological interactions.

Also consciousness is related to human brains only? Why can't we say a living cell contains consciousness?

'Since key genes for the brain evolved even before the Cambrian radiation (Wickramasinghe 2011), the key to the emergence of conscious sentience may be sourced in the evolution of excitable single cells. Chaotic excitation provides a eukaryote cell with a generalized quantum sense organ. Sensitive dependence would give a cell feedback about its external environment, perturbed by a variety of quantum modes - chemically through molecular orbital interaction, electromagnetically through photon emission and absorption, electrochemically through the perturbations of the fluctuating fields generated by the excitations, and through acoustic, mechanical and osmotic interaction' [6].

Here we have to notice that some of the conclusions by Max Tegmark disagrees with suggestions by Penrose and others that the brain acts as a quantum computer, and that quantum coherence is related to consciousness in fundamental way [11].

Finally we have to think 'What is the influence of Siva's Film theory of the universe [1,2,5] on consciousness?'

By the above analysis, it is obvious that there is a relation between space, time, space time, Films of the universe, consciousness and plank scale. A new theory of consciousness is required to explain all these concepts,

manifestation of consciousness wave in to bio field and consciousness. Further papers will produce novel concepts to form consciousness theory towards experimental verification by physics experiments.

5. Conclusions

1. Planck length of physics has been derived By substituting parameters of the universe in 'Siva's Consciousness Wave Equation'.
2. This result concluded that the consciousness wave originates from a point in the universe having diameter near to plank length and a little bit higher in order to exist as an electromagnetic wave in this four dimensional universe for which plank length is the limit. It gives rise to a thought that consciousness wave is cause for the Biological field and consciousness for material objects. When the living thing becomes nonliving thing, the consciousness wave can be terminated and goes back to its originating point. It supports the 'soul concept' as explained by 'Eccles' [10]
3. The discussion has not denied 'Penrose' calculations and application of quantum physics and at the same time Hameroff or Max Tegmark experimental verifications. Microtubule-associated proteins "tune" the quantum oscillations leading to OR. But if we consider 'Film theory of the universe' and 'consciousness wave concept' the quantum oscillations originates from a point 1.6 times higher than the plank scale.
4. Thus it will lead to a new theory of consciousness which says the difference between living things and material objects. It defines the concept of 'space-time' of physics with respect to the concept of consciousness or life associated to biology. Also it says that consciousness or life is not only limited to brain or neurons. It may be applicable to any living cell by defining Biological energy within the frame work of physics and the difference between chemical interactions and biological interactions with some modification in present theories.
5. This concept will be useful to make a full pledged theory of consciousness of life sciences. Forth coming papers will explain space and time as separate entities and how space and time combines to form 'space-time' of 'Minkowski' and 'General Relativity' with combination of consciousness to transform material things in to biological form for creation of living things.

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