

# Information Consciousness within the Realm of Creation and its Mathematical Interpretation

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**ABSTRACT:-** At the cosmic level, the physical analogy of information consciousness idea is best corroborated by an excellent depiction of Penrose diagram (named after mathematical physicist Roger Penrose) which is conformably equivalent to the actual metric in space-time. This conformal factor is chosen such that the entire infinite space-time is transformed into a diagram of finite size where every point corresponds to a 2-dimensional sphere.

Consciousness does not speak the language of mathematics, but it is true that one can endeavour to model it comprehensively in the language of mathematics. Descartes was also, as was so often the case, well ahead of his time by describing continuity and dimensionality, the factors that define his view of space as an actual vector space accessible to mathematical and physical analysis. We can also use mathematics to abstract, idealise and describe these phenomenon in order to make some predictions that would be very different otherwise.

Drawing parallel to the law of conservation, the information force-field of consciousness that is believed to exist and pervade in every region of creation including our universe, is believed to be inhabited by information as its fundamental constituent. It evolves and continuously interact with other fields and matter particles and engage in the exchange of mass-energy with them. This process is also consistent with the existing postulates of physical mass-energy phenomenon explained by laws such as Higgs boson field and the emergent phenomenon of gravity. Mathematically, Information consciousness can be described as a function of transformation of Potential information consciousness into kinetic consciousness i.e.  $f(C_0, C_1)$  which can further be assumed to be a divergence operator explaining how much the consciousness field gradient tends to spread radially outward or converge inward; a kind of behaviour observed under the Gauss' law of electric field lines charging or spreading out from charges in every direction.

**Key-Words:** Information Consciousness, Line Integral Loop Dynamics, Mathematical Interpretation

## I. INTRODUCTION

Discovery of dark energy has confirmed the idea that space has emerged from points in a similar way to temperature emerging from atoms. Causal set theory of Rafael Sorkin also propounds that the space-time expansion dynamics can be attributed to the building blocks of mathematical points connected by links of 0 and 1 as two prime binary digits with each unitary link pointing from past to future. In fact, for many theoretical physicists, the scenario is a way to think about 3-dimensional reality of our physical world born from

information coded elsewhere on a 2-dimensional chip (Holographic principle).

We see things as if they are projected into space around us. The idea of projection was also implicit in Kant's and Descartes' descriptions, which are from the viewpoint of an observer looking out at contents of experience. Both Kant and Descartes described this form of awareness as something extended in time but it was Clay and James who draw this fully to our attention. James (1890) quotes E.R. Clay who coined the term "specious present" to describe how we exist for more than a durationless instant and emphasising that the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we all sit perched, and from which we look in two directions into time.

Thus we can infer that the unit of composition of our perception of time is basically a duration, with a bow and a stern, as it were-a rearward-and a forward-looking end that could be compared strikingly to the mathematical properties of closed loop line integrals. It can be said that we rather feel the interval of time as a whole, with its two ends embedded in it as if the observer is at an instant but the 'information consciousness' of our mind is stretched over time. This mental time is probably not the same as physical time. Hermann Weyl, (Nobel prize-winning physicist), opined that reality is a "four-dimensional continuum which is neither 'time' nor 'space.' Only the consciousness that passes on in one portion of this world experiences the detached piece which comes to meet it and passes behind it, as history, that is, as a process that is going forward in time and takes place in space" (Weyl 1918). In other words information consciousness has a way of containing events in the same order as they occur in the world but seems to use a mental time that is different from physical time.

## II. INFORMATION CONSCIOUSNESS OVER MIND, SPACE AND TIME

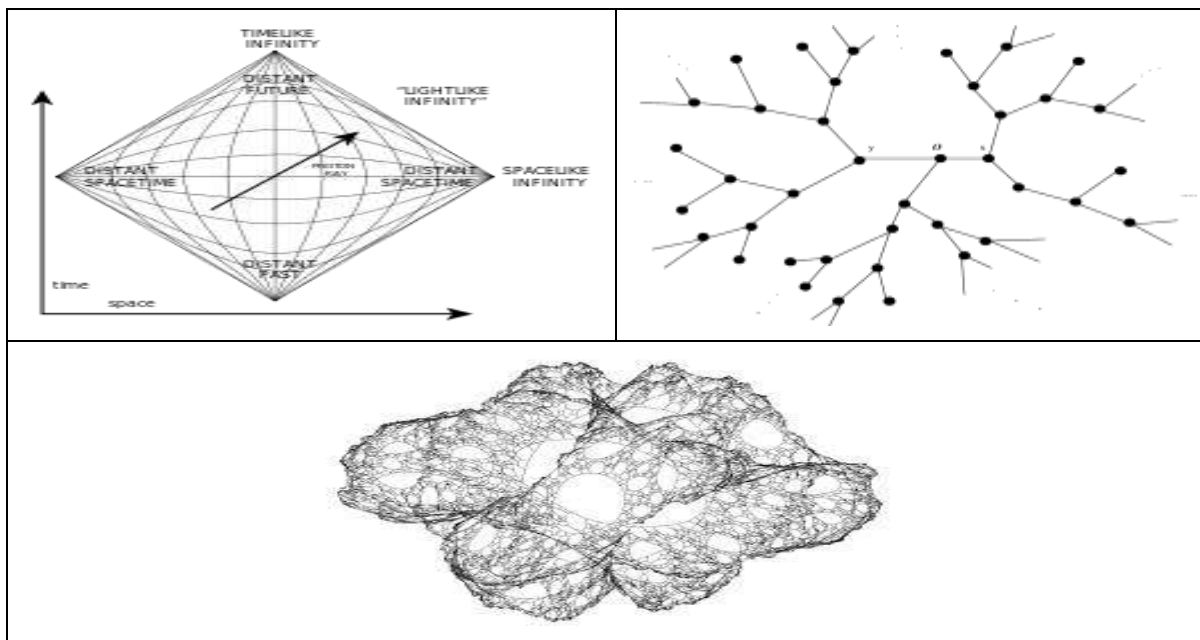
Consciousness as information phenomenology over time and space can very well be defined as "Access Consciousness" which is the time extended form of processes in phenomenal consciousness and self-consciousness to the time extended form of physical processes. As stated earlier, in fact, Decartes, Lockem, Hume etc. described this phenomenon as if there is an observer in their mind looking out at qualia of feeling qualia in the space and time around about. Most descriptions of consciousness phenomenology include 'continuity' for time

and ‘representation’ for space. The empirical evidences of Kant and Descartes are the bedrocks of consciousness studies where it is explained as an observation containing space, time and mind. It is also internally consistent with the esoteric teachings of eastern religion particularly in the religion of Saints i.e.Sant Mat.

Kant (1781) had further argued that our minds must be capable of representing objects in space and time where experiences presuppose space and time as pure concepts of reason. Without space, objects could not be differentiated and would have no properties. Similarly, without representation in time, the concepts of succession of events and simultaneity would be unknown to us. In this way, mind may also have physical intuition of the meaning of its space, time and content so that the qualia become grouped in objects, events, memory, realisation including imaginings and perceptions. GiulioTononi’s Integrated Information Theory (IIT) also offers an explanation for the nature and source of consciousness being identical to a certain kind of information expressible in the form of binary digits (0,1) , the realization of which requires physical, not merely functional, integration, and which can be measured mathematically according to the *phi* metric.As an equivalence, John Archibald Wheeler had also characterized the idea as "It from bit" — "it" referring to all the stuff of the universe and "bit" meaning information. Modern quantum scientists also defend this idea

by likening the universe to a computer as a physical system that breaks up information into bits, and flips those bits in a systematic fashion, something resembling to electrons having spins, which are described by the laws of quantum mechanics. Electrons can take only two distinguishable values: spinning up or spinning down- the same binary characters as computer bits. So, at rock bottom, the universe can also be visualised consisting of information where every elementary particle is supposed to carrythis form of fundamental information-consciousness where information is not just a tool of measure rather it is actually a primary constituent of what is happening in the universe. Accordingly, the reality of our universe and beyond does not work, unless information is, in some sense, real.

Physicist Stephen Wolfram, founder of Mathematica and Wolfram Alpha, calls information "the most prominent thing of our times" and posits that "simple rules... generate what we see in nature.He described "an ultimate representation of the universe" in terms of simple rules,which govern fundamentally, are best conceptualized in terms of computation and they may be more fundamental than mathematics. It can be articulated that in the realm of theoretical physics explaining the origins of space and time, physics will not be complete until it can explain not just the behaviour of space and time, but where these entities come from.



(A) Penrose-Diagram (B) Graph with at least 2 edges going to infinity-Gauss-Bonnet operator of an infinite graph (C) Internet of infinite series of Space-time extensions

At the cosmic level, the physical analogy of Information consciousness idea is best corroborated by an excellent depiction of Penrose diagram (named after mathematical physicist Roger Penrose)which is conformably equivalent to the actual metric in space-time. This conformal factor is

chosen such that the entire infinite space-time is transformed into a diagram of finite size where every point corresponds to a 2-dimensional sphere.In theoretical physics, a Penrose diagram is a two-dimensional diagram capturing the causal relations between different points in space-time as mentioned

above. It is an extension of a Minkowski diagram where the vertical dimension represents time, and the horizontal dimension represents space, and slanted lines at an angle of  $45^\circ$  correspond to light rays. The biggest difference is that, locally, the metric on a Penrose diagram is conformally equivalent to the actual metric in space-time. The conformal factor is chosen such that the entire infinite space-time is transformed into a Penrose diagram of finite size. For spherically symmetric space-times, every point in the diagram corresponds to a 2-dimensional sphere which shares the same basic coordinate vector system of other space-time diagrams for local asymptotically flat space-time, while introducing a system of representing distant space-time by shrinking or "crunching" distances that are further away. Straight lines depicting constant time and space coordinates as hyperbolas, which appear to converge at points in the corners of the diagram that represents "conformal infinity" for space and time. The diagonal boundary lines of a Penrose diagram correspond to the "infinity" or to singularities where light rays must end. However, it is clear that the physics of infinitely dense singularity as projected in the Penrose diagram of space-time cannot be explained and therefore, will not be complete until it can explain how space and time emerge from something more fundamental. Information-consciousness can arguably be the reconceptualization of reality as the only way to explain what happens when the infinitely dense 'singularity' at the core of a black hole distorts the fabric of space-time beyond all recognition, or how scientists can unify atomic-level quantum theory and planet-level general relativity. In this case, Information Consciousness as a fundamental constituent of reality can become an overarching proposition.

Interestingly, the interpretation of quantum physics as a global information field theory has also been formulated whereas, the global information field arises already in classical electrodynamics. The study of the diffraction of light demonstrates that the distribution of photons on the screen is predicted by the Maxwell equations. The same phenomenon for propagation of electrons through double slits is described by the Schrödinger equation. In both cases the global information field is determined by the wave-type differential equations. Standard notations for the solutions of these equations are an electromagnetic field and a wave-function, respectively, which emphasizes that the material (classical) world is accompanied by a global information field on all levels. The existence of the global information field has been demonstrated by the Einstein-Podolsky- Rosen experiment e.g., for the radiative decay of a hydrogen atom from a Meta stable 2S-state, wherein the measurement of the direction of the spin of the first photon is performed, the second photon takes the opposite direction of spin independently of the distance between the two photons. In this experiment the distance between photons at the moment of measurement was 18.0 km and it was found that the propagation of quantum information at the moment of measurement is at least  $10^4$  times faster than the speed of light  $c$ .

### III. MATHEMATICAL INTERPRETATION OF INFORMATION CONSCIOUSNESS

Consciousness does not speak the language of mathematics, but it is true that one can endeavour to model it comprehensively in the language of mathematics. Descartes was also, as was so often the case, well ahead of his time by describing continuity and dimensionality, the factors that define his view of space as an actual vector space accessible to mathematical and physical analysis. We can also use mathematics to abstract, idealise and describe these phenomenon in order to make some predictions that would be very different otherwise.

In the following section, a mathematical interpretation to express the dynamics about the origin and characteristics of information consciousness is proposed. It does not intend to delve into specifics of micro detailing as there are existing approaches propounded by various people in pursuit to understand the same, notably, Orch-Objective Reduction Theory (Hameroff and Penrose), Integrated Information theory (Guilio Tononi) and others.

#### *Mathematical Notations of Potential And Kinetic Information Energy: Movement Of Information Between 0 And 1 Bits*

Drawing parallel to the law of conservation, the information force-field of consciousness that is believed to exist and pervade in every region of creation including our universe, is believed to be inhabited by information as its fundamental constituent. It evolves and continuously interact with other fields and matter particles and engage in the exchange of mass-energy with them. This process is also consistent with the existing postulates of physical mass-energy phenomenon explained by laws such as Higgs boson field and the emergent phenomenon of gravity.

Mathematically, Information consciousness can be described as a function of transformation of Potential information consciousness into kinetic consciousness i.e.  $f(C_0, C_1)$  which can further be assumed to be a divergence operator explaining how much the consciousness field gradient tends to spread radially outward or converge inward; a kind of behaviour observed under the Gauss' law of electric field lines charging or spreading out from charges in every direction. In other way, consciousness field can be fully characterised by its divergence and curl where Potential consciousness energy is termed to be self-absorbed ( $C_0$ ) whereas Kinetic energy is a manifest form of information self-awareness as  $C_1$ . We describe this single bit of quantum information (Qubit) using two real numbers involving infinitely many decimal points in between them. So,  $\Delta C^{0 \leftrightarrow 1}$  movement from zero to one also includes the fundamental property of infinitely big or small quantities as infinity  $\frac{\infty}{\infty} = 1$  and one can always add a subsequent '1' to any number or quantity to make it further bigger or larger.

And, once we put  $\Delta C^{0 \leftrightarrow 1}$  over  $(S, T)^\infty$  i.e Space-time, things start demonstrating divergence as  $\frac{\Delta C^{0 \leftrightarrow 1}}{(S, T)^\infty}$

In graph theoretical terms,  $(S, T)$  is an ordered pair comprising a space-set  $S$  of vertices or nodes or points or regions representing Cosmos made up of infinite galaxies or multiverses bounded together with a time-set  $T$  of edges or arcs or lines or motion/ movement between the vertices stretching to infinity. It can also be visualised as a Cosmic Topology.

*Explanation for  $\infty$  :*

Simply stating, it is an infinity of infinite number of reference frames of time and space.  $(S, T)^\infty$  : The bracket represents a boundary condition of an individual reference frame or set of infinities within in infinity, a space-time within a space-time. It also indicates Singularity as a singularity (in the context of gravitation) is simply a 'point' or a 'region' in space-time where the values of certain quantities predicted by our theories blow up to infinity. For the singularity to be real, this must be true irrespective of the choice of the coordinate system of description itself. There are apparent singularities that vanish with an appropriate choice of coordinate-system.

*Information Consciousness as Vector Field and Explanation for  $\Delta C^{0 \leftrightarrow 1}$  :*

Vector fields are often used to model, for example, the speed and direction of a moving fluid throughout space, or the strength and direction of some force, such as the magnetic or gravitational force, as it changes from one point to another point similar to the idea presented in the earlier section. This representation of a vector field depends on the coordinate system, and there is a well-defined transformation law in passing from one coordinate system to the other. More generally, vector fields are defined on differentiable manifolds, which are spaces that look like Euclidean space on small scales, but may have more complicated structure on larger scales like the scale of universe.

In the realm of mathematics, the elements of differential and integral calculus extend naturally to vector fields. When a vector field represents force, the line integral of a vector field represents the work done by a force moving along a path, and under this interpretation conservation of energy is exhibited as a special case of the fundamental theorem of calculus. Since, vector fields can usefully be thought of as representing the velocity of a moving flow in space; this physical intuition leads to notions such as the divergence (which represents the rate of change of volume of a flow both in positive and negative directions) and curl (which represents the rotation of a flow).

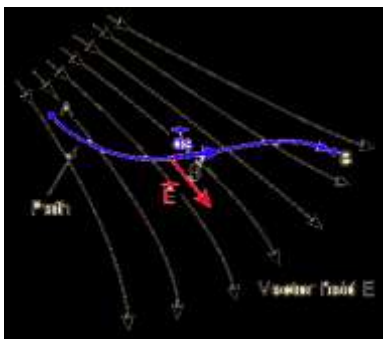
Moreover, treating information force field as an 'object' of study as emphasised in Michael Faraday's field theory, information consciousness field can be visualised as a vector field to find a mathematical expression for such force-fields, the elements of integral calculus in the form of line integral of a vector-field of consciousness would represent the work done by this force moving along a path. Accordingly, 'C' (Information Consciousness) is an Integral expressing change of consciousness from 0 (Global source-Potential Energy) to 1 (Local sink-localisation of kinetic energy). Therefore, information consciousness can be proved being coded in the binary digits of information-bits of 0 and 1 and can explain very authentically the entire mechanism of creation or evolution resulting due to a continuous transition, change or shift of the information consciousness between 0 and 1 as denoted by  $\Delta C^{0 \leftrightarrow 1}$  or  $\phi_0^1 C$ .

The reason that forces meeting these conditions can be called conservative is that, if all of the forces on an object are conservative we can define a quantity called potential energy, denoted  $U(r)$ , a function only of position, with the property that the total transformation energy is constant, i.e. is conserved. To define the potential information energy, we must first choose a reference point  $r_0$ , at which  $U$  is defined to be zero. (For gravity, we typically choose the reference point to be ground level.) Then  $U(r)$ , the potential energy, at any arbitrary point  $r$ , is defined to be

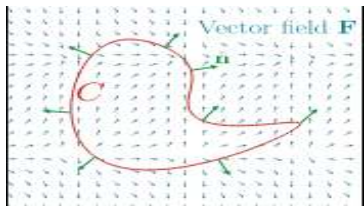
**Potential Energy**

$$U(\mathbf{r}) = -W(\mathbf{r}_0 \rightarrow \mathbf{r}) = -\int_{\mathbf{r}_0}^{\mathbf{r}} \mathbf{F}(\mathbf{r}') \cdot d\mathbf{r}'$$

In words,  $U(r)$  is minus the work done by  $F$  when the information moves from the reference point  $r_0$  to the point  $r$  and as the information flows along the path, it starts transforming inherent potential energy (mind-matter tendency)  $C_0$  into kinetic information consciousness energy  $C_0$  while attaining the level of 1, and then may return back to reservoir. These information particles go along the trajectory and they exhibit the transition dynamics of potential and kinetic energy states.



Now, supposing we have some two-dimensional consciousness vector field,  $F(x,y)$ , and a closed information consciousness curve  $C$  indicated by  $\oint_0^1 C$  wandering through this field, then the journey of information along a trajectory- $C$  in the consciousness field- $F$  can be visualised intuitively as the tiny-segments which make the whole curve- $C$ , each with an amount of mas-energy exiting or entering through it per unit time. Therefore, these movements or transitory changes as the consciousness can be added up and represented best as a line integral or integral curves or trajectories or flow-lines.



For an information object moving along a closed loop path  $C$  in a consciousness vector field  $F(x,y)$ , the total work done by the field on the object is obtained by summing up the differential work done in moving from one point to another through a function which return the outward unit normal vector at some point on the curve  $C$ . This gives the line integral concept of information consciousness and can be expressed as -

$$\oint_C F \cdot dr$$

The classic problem for it is to calculate the work done on a particle traveling along some curve in a force field represented by a vector field. If one considers a line integral along a *closed* path, the symbol  $\oint$  is sometimes used to emphasise that the path is closed.

Inspired by this physical intuition about information consciousness, we are led to understand the notions of divergence further more. The reservoir of consciousness acts as an end from where the force-field emanates and spreads throughout the creation i.e. Positive Divergence, whereas, at the point of singularity when all these information meet back at their source, it can be termed as Negative Divergence or Convergence, as the divergence at a point represents the degree to which a volume around the point is a source or sink for the vector flow, a result which is made precise by the divergence theorem. The divergence can also be defined on a Riemannian manifold, that is, a manifold with a Riemannian metric that measures the length of vectors.

#### IV. LINE INTEGRAL LOOP DYNAMICS

Importance of depicting the whole trajectory of movement of information consciousness as ‘caustics’ which are non-local characteristics of states that can be determined and understood only if the whole trajectory is known. This topological

depiction plays a decisive role in quantum description of reality at macro cosmic level.

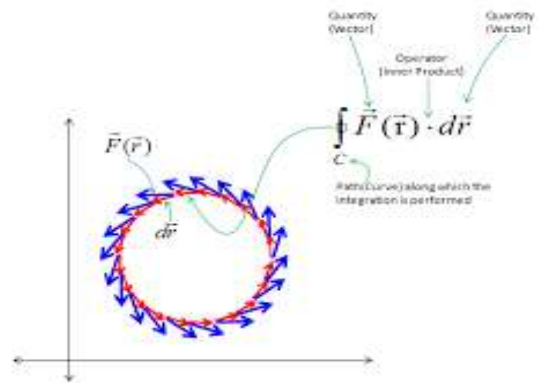
As we have concerned ourselves with the idea that information consciousness always taking values between 0 and 1, it may also be interpreted as the value transiting between 0 to 1 back and forth. So, in this case as we know that the line integral is path independent between any two points, the line integral along the first information consciousness curve  $C_1$  as the forward path moving from 0 to 1 i.e.  $\int_{C_1} f \cdot dr$  is going to be equal to the line integral of returning information consciousness curve  $-C_2$  over the reverse path  $C_2$ , of  $f \cdot dr$ , which can be written as-

$$\int_{C_1} f \cdot dr + \int_{-C_2} f \cdot dr = 0$$

Therefore, as a closed loop integral, we can write-

$$\oint_C F \cdot dr = 0$$

It means that the line, if we have a potential in a region, and it may be everywhere, then the line integral between any two points is independent of the path. This could be any closed path where our vector field  $f$  has a potential, or where it is the gradient of a scalar field, or where it is conservative. And so this can be written as a closed path of  $C_1$  plus the reverse of  $C_2$ . That tells us that at any point in the region where this is valid, the line integral from one point to another is independent of the path; And because of that, a closed loop line integral, or a closed line integral, so if we take some other place, if we take any other closed line integral or we take the line integral of the vector field on any closed loop, it will always become 0 because it is path independent as shown below- .



It can be interpreted as the fundamental nature of information consciousness that remains constantly pervaded and uniform in its distribution over any unit of time and space irrespective of any shape and symmetry of the trajectories of its movement.

More precisely, it can be diagrammatically represented as Green’s Theorem.13 as shown below-

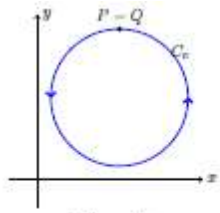


Figure (i)

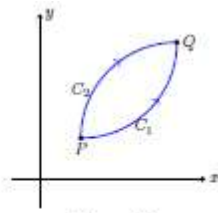


Figure (ii)

$$\int_0^1 C dC$$

Compute the indefinite Integral:

$$\int C dC = C^2/2 + C$$

$$\int C dC$$

Apply the Power Rule:  $\int x^a dx = \frac{x^{a+1}}{a+1}, a \neq -1 = \frac{C^{1+1}}{1+1}$

Simplify  
 $= C^2/2$

Add a Constant to the solution,  $\frac{C^2}{2} + C$

Compute the boundaries:  $\int_0^1 C dC = \frac{1}{2} - 0$

$$\int_a^b f(x) dx = F(b) - F(a)$$

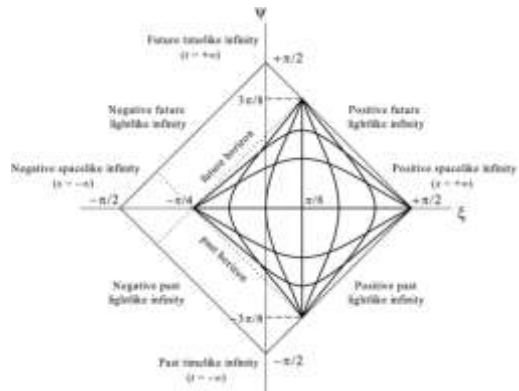
$$= \lim_{x \rightarrow b^-} (F(x)) - \lim_{x \rightarrow a^+} (F(x))$$

$$\lim_{C \rightarrow 0^+} (C^2/2) = 0 \quad \text{and} \quad \lim_{C \rightarrow 1^-} (C^2/2) = 1/2$$

$$= \frac{1}{2} - 0, \text{ Simplify, } \frac{1}{2}$$

Therefore,  $\infty = \text{Diverges} = \text{Creational expansion (or Convergence in case of negative value)}$

Now, reversing the above phenomenon will lead to – Divergence or Convergence back to origin of consciousness. The idea is also portrayed by Penrose diagram of time and space as below in terms of Future and Past Time like Infinity  $T = -/+ (\infty)$  and Positive/ Negative Space like infinity i.e.  $X = -or + (\infty)$



Additionally, Information consciousness manifested as Potential and Kinetic information can also be shown as -

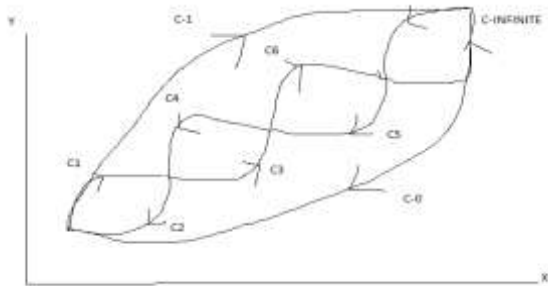
Extended to Infinity of Space (dr) and Time (dt):

This form of line integrals can be extended to infinite series of information consciousness cycles spread over space-time -

$$\oint_{C \rightarrow \infty} F. dr. dt = 0$$

Where, the cumulative path independent values of all information consciousness C-series loops will still be zero (0) because the sum of the path values of all individual closed loop integrals will be zero. It can be more clearly demonstrated as -

$$\oint_{C1+C2+C3+C4+C5.....Cn \rightarrow \infty} F. dr. dt = 0$$



It can also be elaborated as,

$$f(C, S, T) = \frac{\Delta C^{0 \leftrightarrow 1}}{(S, T)^\infty}$$

In the line integral form as,

$$f(C, S, T) = \frac{\int_0^1 C}{(S, T)^\infty}$$

Or,

$$f(C, S, T) = \frac{\int_0^1 C dC}{(S(C, T)T)^\infty} = \text{Diverges}$$

STEPS:

$$\frac{\int_0^1 C dC}{(S(C, T)T)^\infty}$$

$$\int_0^1 C dC = 1/2$$

$$f(C) = \int_0^{\infty} E \cdot dt$$

(Where E= Kinetic + Potential Consciousness)

*Consistency with energy conservation law and Schrodinger Equation:*

Consistent with the conservation law, the total energy E of a particle can also be expressed as the sum of kinetic energy T and potential energy V, this sum is also the frequent expression for the Hamiltonian H in classical mechanics:

$$E=T+V=H$$

Explicitly, for a particle in one dimension with position x, mass m and momentum p, and potential energy V which generally varies with position and time t:

$$E = \frac{p^2}{2m} + v(x, t) = H$$

For three dimensions, the position vector r and momentum vector p must be used:

$$E = \frac{p \cdot p}{2m} + v(r, t) = H$$

*Schrodinger Equation:*

Taking the discussion to a completely new level of particle exhibiting wave-properties, the time-dependent Schrödinger equation predicts that wave functions can form standing waves, called stationary states (also called "orbitals", as in atomic orbitals or molecular orbitals). These states are particularly important as their individual study later simplifies the task of solving the time-dependent Schrödinger equation for any state. Stationary states can also be described by a simpler form of the Schrödinger equation, the *time-independent Schrödinger equation* (TISE), where E is a constant equal to the total energy of the system. This is only used when the Hamiltonian itself is not dependent on time explicitly. However, even in this case the total wave function still has a time dependency.

$$H \Psi = E \Psi$$

In words, the equation states:

*'When the Hamiltonian operator acts on a certain wave function Ψ, and the result is proportional to the same wave function Ψ, then Ψ is a stationary state, and the proportionality constant, E, is the energy of the state Ψ.'*

### V. EXPLAINING THE NATURE OF ELECTRICITY, MASS, GRAVITY AND QUANTUM STATE THROUGH INFORMATION CONSCIOUSNESS MODEL

Equation for the behaviour of Electron/Electricity over Time and Space can also be written as-

$$f(E, S, T) = \frac{\Delta E^{0 \leftrightarrow 1}}{(s, t)_{\infty}}$$

$$\Delta E^{0 \leftrightarrow 1}$$

In quantum mechanics, an excited state of a system (such as an atom, molecule or nucleus) is any quantum state of the system that has a higher energy than the ground state (that is, more energy than the absolute minimum). Excitation is an elevation in energy level above an arbitrary baseline energy state. In physics there is a specific technical definition for energy level which is often associated with an atom being raised to an excited state. The temperature of a group of particles is indicative of the level of excitation (with the notable exception of systems that exhibit negative temperature). The lifetime of a system in an excited state is usually short: spontaneous or induced emission of a quantum of energy (such as a photon or a phonon) usually occurs shortly after the system is promoted to the excited state, returning the system to a state with lower energy (a less excited state or the ground state). This return to a lower energy level is often loosely described as decay and is the inverse of excitation.

Similarly, equation for the behaviour of Mass can be written as-

$$f(M, S, T) = \frac{\Delta M^{0 \leftrightarrow 1}}{(s, t)_{\infty}}$$

$$\Delta M^{0 \leftrightarrow 1}$$

Similar to the nature of electrons, the mass of an atomic system does increase as the electron becomes excited, bringing the atom into a higher energy state. In that sense, the atom (not the electron) gets "heavier" because of the increased energy of the internal configuration of particles. In terms of the modern quantum theory, electromagnetic radiation is the flow of photons (also called light quanta) through space. Photons are packets of energy  $h\nu$  that always move with the universal speed of light. The symbol  $h$  is Planck's constant, while the value of  $\nu$  is the same as that of the frequency of the electromagnetic wave of classical theory. Photons having the same energy  $h\nu$  are all alike, and their number density corresponds to the intensity of the radiation. Electromagnetic radiation exhibits a multitude of phenomena as it interacts with charged particles in atoms, molecules, and larger objects of matter.

Similarly, the equation for the behaviour of Gravity can be written as-

$$f(G, S, T) = \frac{\Delta G^{0 \leftrightarrow 1}}{(s, t)_{\infty}}$$

$$\Delta G^{0 \leftrightarrow 1}$$

Zero gravity is the state or condition in which there is no apparent force of gravity acting on a body, either because the force is locally weak, or because both the body and its surroundings are freely and equally accelerating under the force. Then it emerges as an intrinsic property of all matter that has non-zero mass

In a similar fashion, equation for the behaviour of Quantum State can be re-written as-

$$f(Q, S, T) = \frac{\Delta Q^{0 \leftrightarrow 1}}{(s, t)_{\infty}}$$

$$\Delta Q^{0 \leftrightarrow 1}$$

It can't be 0 and 1 at the same time. It can be a superposition of states, which means the state isn't certain until a measurement is made of the system. Spin is either up or down, but we can't know what it is until we measure it. One or zero is just shorthand for up or down. But energy level is another. Here levels are discrete but not necessarily limited to binary choices. Quantum numbers can be measured exactly. For example, the uncertainty  $\Delta E$  is zero for a stable state, where one can take an infinite time  $\Delta t$  for measuring the energy.

#### *New Horizons:*

Every stretch and corner in the vastness of this cosmos is required to remain in a perfect balance all the time in order to create and sustain the 'human race' as it is the only form existing among all animate and inanimate forms which has the capacity to re-unite with the reservoir of consciousness and attain its eternal purpose of evolution and existence as it is. There may be innumerable number of Universes all originated from the same source of consciousness and forms like 'humans' may be existing out of our cosmos too. They may have a similar pattern of evolution and dissolution, but their term of emancipation can come only when their cosmos is perfectly aligned with the source-eternal. Man is made after the image of God, truly resonates with the theory of consciousness as it is only the human form of man which has the switches and the capacity to comprehend and correspond with the ultimate reality while following the natural path and laws of physical creation and its evolutionary tracks. Information Consciousness: As and when, a human form acquires or gets access to information-consciousness (on the lines of Integrative Information Theory of GulioTononi) of the level of its original reservoir, he will instantaneously get free from the lower information-deficiency or entropy and qualify to get back to the place aboriginal and remain there forever.

The esoteric teachings about macro and microcosm in their most extreme form are one and the same as per Buddhism, Bible, Yin/Yang and most scientifically in the Religion of Saints i.e. Sant Mat of Indian origin.

#### VI. CONCLUSION

- ❖ Information Consciousness is a state represented by  $\Delta C^{0 \leftrightarrow 1}$
- ❖ Time – Space Dynamics =  $(s, t)_{\infty}$
- ❖ All pervasive 'environment' of consciousness existing as a fundamental reality like gravitation, electro-magnetism, mass, charge, fundamental particles etc.

- ❖ State of consciousness moving between and from zero to one (State of 'unity' or null to the state of 'duality' of self-conscious localised entity) and back forth.
- ❖ Evolution from 'zero' which is a state of global omnipresent entity to 'one' which is a uniquely positioned local entity.
- ❖ C-0 (potential state) to C-1(Kinetic state) denotes transition from potential state of information/consciousness to Kinetic state of consciousness over time and space.
- ❖ This mechanism of evolution spanning over infinite space and time.
- ❖ Local entities (animate or inanimate) emerging from global entity and converging ultimately over infinite space and time.
- ❖ Movement from 0 towards 1 is creational or evolutionary mechanism while movement from 1 towards 0 is destructive or involutionary mechanism.
- ❖ Cosmos came to existence through the creational mechanism and will infinitely evolve and ultimately lead towards dissolution/ involution and re-creation again. (Series of 'Eons'- Roger Penrose, Higgs-Boson Theory)
- ❖ All forces of nature and cosmos exhibit creational and destructive; though a purposive quality as they fundamentally contain the entity-particles evolving under the above mechanism since the very beginning.
- ❖ Consciousness experientially and experimentally measurable through integrative informational capability possesses by all entities animate or inanimate including fundamental particles. (GulioTononi- Integrative Information Theory)
- ❖ More integration, more self-consciousness (Human brain cells made up of neurons and microtubules capable of self-learning, information processing and responsiveness to the environment)
- ❖ Inanimate objects devoid of neural network of information-integrative capability are least conscious.
- ❖ Localised consciousness governed by the evolutionary mechanism of the pre-creational initial condition of primitive information contained (creational tendencies, from 0 towards 1) in all the entities and experienced by them through varying patterns of space-time geometry.
- ❖ "Qualia of consciousness" are those many moments of such experiences under the space-time fabric of holistic creation realised subjectively by more sentient entities than other lesser/ inanimate ones. (Penrose-Hameroff Orchestrated reduction theory)
- ❖ The above descriptions about consciousness and creation are compatible with all other existing theories and discoveries i.e. Theories of relativity, Gravity, Electro-magnetism, Quantum mechanics and so on.



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