

Cosmic Code and 'Energy' as Fifth Dimension of Universe

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Abstract

Kurt Gödel in 1931, proved in his famous 'Incompleteness theorem' about nature of mathematics, that there are problems that can not be solved by any set of rules or procedures [1]. Pure mathematical models of string and super string theories are good, but to understand the outcome of these theories you must before hand a clear problem or question on which to apply this mathematics. To deal with such a paradox we can adopt an approach that is called 'model dependent realism' as a tool to carve a string model whose predictions can be verified mathematically.

The proposed logistic- mathematical model introduces one more dimension "Energy" as positive fifth dimension of universe [2] as part of our ten dimensional 'space matrix' i.e. Space-Time-Energy of universe; with five positive dimensions formed by strings (named as 'treo' in model) and five curled up negative dimensions represented by 'void'.

These new observations will further help to describe finer details of working of space matrix and will decipher a new pattern, the 'cosmic code' based on S number (1.85539×10^{43} number; a dimension less new constant) which is universal Rhythm, at which all strings constantly vibrate at Planck frequency. [3] The new quantum model, named as 'treo model', only uses Planck units to explain the structure of universe and its working, which will lead to quantum gravitation. Treos or strings are described as one object for creation of space-time- energy and all matter. The role of voids is explored, in producing accelerated expansion of universe with its possible consequences, in our Quantum pendulum universe.

Cosmic code and ‘Energy’ as Fifth Dimension of universe.

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Kurt Gödel in 1931, proved in his famous ‘Incompleteness theorem’ about nature of mathematics, that there are problems that can not be solved by any set of rules or procedures [1]. Pure mathematical models of string and super string theories are good, but to understand the outcome of these theories you must before hand a clear problem or question on which to apply this mathematics. To deal with such a paradox we can adopt an approach that is called ‘model dependent realism’ as a tool to carve a string model whose predictions can be verified mathematically.

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Treos or strings are described as one object for creation of space-time- energy and all matter. The role of voids is explored, in producing accelerated expansion of universe with its possible consequences, in our Quantum pendulum universe.

Treo or String as generator of all matter and Space Time-Energy.

Treo or *string* present themselves only in one dimension of length and each is of **Planck's least length**, have a fixed mass and energy and they vibrate continuously, each time in different plane, to create all five-positive dimensions of Space-Time-Energy.

Size of one treo = *Planck least length* = 1.616229×10^{-35} meter (conventional value)

Weight of one treo = $6.32582652229 \times 10^{-95}$ kg (calculations of gravitational constant, below)

Energy of one treo = $5.6831651 \times 10^{-76}$ J (Applying $E = mc^2$)

Treos are divided in two categories 'free treos' and 'bound treos'. Quanta of **free treos**, accumulate and pile up in integral numbers to produce mass energy of all matter and photons; while **bound treos are arranged alternately with voids**, to construct the geometry of all three dimensions of Space, marks fourth dimension of Time, while they themselves are vibrating particles by which they represent fifth positive dimension of universe; ENERGY.

Five positive dimensions are created when treos arrange themselves and oscillate at **Planck frequency (S times per second)**, each time after a gap of Planck's least time, in all possible S planes. The rhythm of vibrations of all bound treos in space matrix, at Planck frequency regulates our universe.

Planck frequency = (1 / Planck Least Time) = $1 / 0.5389689 \times 10^{-43}$ sec

= $1.85539441 \times 10^{43}$ per second

This $1.855394409 \times 10^{43}$ is S number; the proposed new dimension less constant in model.

All bound treos simultaneously vibrate by S number of vibrations per second in all possible S number of planes. Bound treos are illusive dark matter of universe. After converted in kinetons they form proposed kinetic columns and are responsible for dark halos around galaxies [5].

How S number decides, Unit space, Unit time, Unit energy and value of other universal constants.

SECTION!

1. S number of treos is in one quantum energy, which is also the 'quantum of unit action' and the value of '**Reduced Planck Constant**'; \hbar (h Bar).

2. While **Planck constant h** : is the angular momentum of this one quantum mass–energy i.e. $h = S \times 2\pi$.
3. **S** bound treos distance per second (in S vibrations) is the **Speed of light, c**.
4. **S** free treos is 1 quantum mass energy; present in **one-unit photon**.
5. \sqrt{S} Quanta are mass energy of **one-unit electron**; and it is **one-unit charge**.
6. **S** quanta or **S²** free treos makes one-unit mass (**Planck mass**).
7. One-unit mass is supported by **S²** kinetons per second per second, it is also the derived value of **Gravitational constant**.
8. \sqrt{S} Unit masses produces deformation of all three dimensions of space of one unit space matrix.
9. **S** unit masses are in **one unit black hole**.

SECTION!!

- (a) The uncurling of each void per vibration, by $1/S^2$ of one **Planck's length**, at each point of universe, is the value of **cosmological constant** and the rate of expansion of universe, and it calculates the present value of **Hubble constant**.
- (b) **S** seconds (**S²** vibrations) is one life span of universe and **S²** bound treos forms the expanded radius of universe (presently contracted in 13.8 billion light years.).

SECTION!

(Role of five Positive dimensions; treos)

Our Space is not empty, but it is permeated by a non-zero energy field, earlier named by Mr. Einstein as 'Space-Time' and by Mr. Peter Higgs the 'Higgs fields [8]. It is postulated that this field is not only space-time but it has three interdependent components of Space, Time and energy.

1. SPACE Creation of three dimensions of Space.

All Bound treos are placed alternately with voids (voids have five curled up negative dimensions) and thus it weaves our ten–dimensional uniform, omnipresent space–matrix.

These one-dimensional trees can form 3 dimensional spaces, by their mode of compilation, when arranged side by side along a line, it produces first dimension of **Length (simile; one line of S alphabets)**. To construct two dimensions of **length and breadth**, they construct figure of squares (**simile; one page of S such lines**). Finally they construct all 3 dimensions of space (**length, breadth and depth**) as small cubes of Planck least length (**simile; one book of S such pages**) are formed in multi layered space matrix. **One unit space matrix** is a big cube where length of its each side is of **S bound treos**, Fig 1.

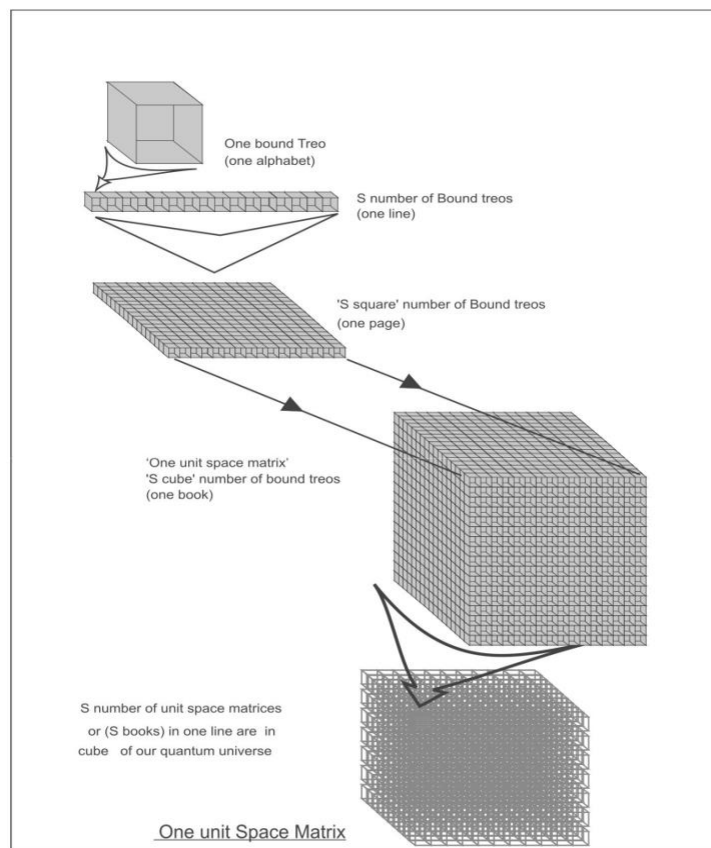


Figure 1: One Unit space matrix a cube with S bound treos present on its one side

2. TIME, Fourth Dimension of Universe

Time along with space both together form four dimensions of space– time. **Each bound treo vibrate by S number of vibrations per second**; and time between two such vibrations is **Planck**

least time. All treos (vibrating strings) of the universe vibrate simultaneously and thus whole universe vibrates at S frequency.

The minimum time required for any action to take place is Planck least time i.e. the time period in between two such vibrations of universe. It may be a physical action or any chemical, thermal or biological processes which occurs around us continuously, and constant change is perceived by us as ‘flow of time’. No time machine (to visit past or future) is possible as we move in constantly changing universe, transforming with its each new vibration, and leaving behind its no trace (e.g. as our body has evolved from a baby, with no remnants of baby body left, so we can not transform our present body in a baby body).

If Space contracts, **there is a reduction in total number of vibrations per second** of all bound treos in any local area, the time between two vibrations (i.e. Planck’s least time) will increase, which in turn will increase ‘minimum reaction time’ or the ‘least processing time’ (now every action or chemical and biological process in this deformed/ contracted local area will take more time), and thus it will slow down the rate of change, which we perceive as slow down of time in involved local area. If no change occurs time will stop, then the universe will look like a photograph.

Fourth dimension of Time

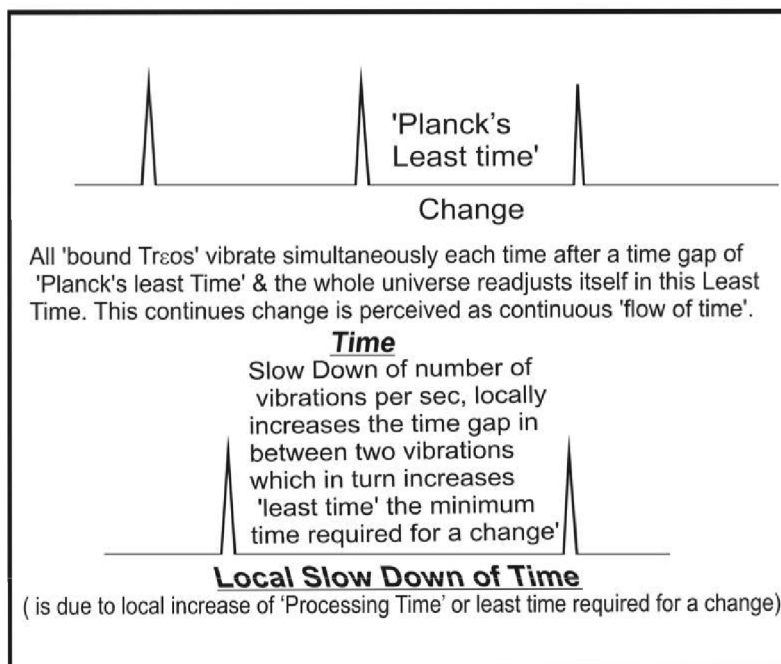


Figure 2: Each tree vibrates by S Times per second, with a time gap of one Planck's least time.

3. ENERGY Fifth Dimension of Universe

All Electromagnetic energy and all mass energy packets up to one unit mass, exert a load along its length of spread in a line at each apex bound tree on its Reduced Compton wave length. At each apex bound tree, the load exerted of any number of free trees according to its packet density, is neutralized by equal number of bound trees of space matrix, as they convert in kinetons and get arranged in kinetic columns.

All bound trees of space–matrix, which are not subjected to load, simultaneously vibrate by S vibrations per unit time (per one second), in **S number of vibrations per second in all possible S planes.**

When any one such bound tree vibrating in all S planes, is subjected to (minimum) ‘load’ of one free tree, its **planes** of vibration (or the degree of freedom) is restricted and this bound tree will now vibrate S times per second only in one plane, in the direction of load to support or neutralize this load (i.e. mass pressure or momentum) on space–matrix, by an equal and opposite reaction. **Thus contracted bound tree, start vibrating only in the direction of load, is a ‘kineton’.**

4. Reduced Planck Constant, Planck Constant.

S numbers of trees form one quantum energy. **The S free trees or one quantum energy is the value of Reduced Planck constant \hbar . Angular momentum of this one quantum mass–energy is the value of Planck constant $h = \hbar \times (2\pi)$.**

The one quanta energy (which is mass–energy of a unit photon) generates unit action and deforms just one bound tree layer of unit space matrix and its one unit angular momentum (**value of h ; Planck constant**) produces one EM wave during its translational motion in one second.

- a. **Reduced Planck constant is Energy of one quantum mass, which generates ‘Quanta of unit action’ or ‘unit minimum action’ = $1.0545718 \times 10^{-34}$ Joule sec.** (conventional Co data 2018 value of Reduced Planck constant)

- b. **Planck constant** is the angular momentum of this ‘one quantum mass–energy’ which produces one EM wave in one second.

$$= 6.626070 \times 10^{-34} \text{ Joule sec. (Conventional Co data 2018 value of Planck constant) [12]}$$

1. **If we divide conventional value of Planck constant by 2π**

$$6.626070 \times 10^{-34} \text{ Joule} / 6.28318531 \text{ (value of } 2\pi) = 1.05457179 \times 10^{-34} \text{ Joule}$$

(We get conventional value of Reduced Planck constant per second)

2. **If we calculate Mass of this energy ($m = E / c^2$).**

$$1.05457179 \times 10^{-34} \text{ Joule} / (2.99792458 \times 10^8 \text{ meter per second})^2$$

$$= 1.17336936 \times 10^{-51} \text{ kg (mass of one quanta energy)}$$

3. **Number of free trees in this mass of one quanta mass**

$$1.173369 \times 10^{-51} \text{ kg} \times 1.5808 \times 10^{94} \text{ (number of free trees in one Kg) }^*$$

$$= \underline{1.855 \times 10^{43} \text{ trees (S number of free trees)}}$$

(S free trees = is one quantum energy, which is present in one unit photon)

*see below, calculations for new derived value of gravitational constant.

5. Speed of Light

(Speed of displacement of photon packet per second)

Each time after one Planck’s least time by **next one vibration, the photon packet is pushed to adjoining ‘next bound tree’** in direction of its progression on space matrix. And thus by S vibrations in one second, it moves **by S number of (i.e. $1.855394405 \times 10^{43}$) bound trees distance per second.**

$1.855394405 \times 10^{43}$ vibrations per second $\times 1.615788303 \times 10^{-35}$ Meter* is displacement of photon packet per vibration = **2.997924×10^8 meter per second**, and it is conventional value of ‘c’, the Speed of light.

* $1.615788303 \times 10^{-35}$ Meter is Space occupied by one bound tree in length.

This calculation indicates, (as it is calculated from two constants of Planck’s least length and Planck’s least time), that the speed of light is also a constant and is ultimate speed of movement

in our universe, in un-deformed space matrix. The speed of light also confirms the proposed 'structure of space matrix' as described in this tree model.

Thus, space matrix is a medium, which propels all photons in translational motion, and every motion of all bodies in this universe is the result of 'propulsion by this active medium': It is to be noted *the continuous motion of every thing in this universe, is due to this active space matrix.*

As this moving deformation can not die by itself (with out being opposed by other deformation) and it is conserved and thus photon moves indefinitely; it is the **basis of conservation of momentum** and the reason behind first law of motion (if a body is moving it will go on moving indefinitely until a retardation force is applied on it).

6. New Derived Value of Gravitational Constant;

(After Replacing Meter with Planck Least Length)

Gravitational constant 'G' = 6.67430×10^{-11} Meter³ per kg, per sec per sec. (Dimensional Formula $L^3 M^{-1} T^{-2}$)

- a. By substituting the value of meter by natural unit of Planck's least length '**G' can be recalculated** (while **one meter have $0.61871425 \times 10^{35}$ bound treos** and each can be converted in one kinton).

$$= 6.67430 \times 10^{-11} \times (0.61871425 \times 10^{35})^3 \text{ per kg, per sec per sec}$$

$$= 1.58079692 \times 10^{94} \text{ kintons per kg, per second per second.}$$

It also means that this number of kintons act on 1 kg mass per second per second and will support equal number of 'free treos' in one KG. Thus $1.58079692 \times 10^{94}$ 'free treos' constitute one kg mass.

- b. **Alternatively, the value of G can also be denoted by number of kintons supporting one-unit mass (S^2 number of free treos)**

$$= 3.442488398 \times 10^{86} \text{ kintons per unit mass, per second per second. **}$$

- c. **Alternatively, the value of G can also be denoted by kintons acting on one free tree (as in case of unit photon).**

$$= 1 \text{ kinton per free tree, per sec per second.}$$

Then gravitation as a phenomenon can be explained as: $G = \text{universal constant} = 1 \text{ unit action by one free tree reacted by one kinton, per second per second (i.e. continuously)}$

*One meter = 1/Planck Least Length = $0.61871425 \times 10^{35}$ bound trees distance.

**As one-unit mass is maximum load which can be supported at 'one-unit gravitational center', by graviton (Treo model) in universe, this derived new value for one unit mass is fundamental and true unit of gravitational constant and kinetic energy of one graviton.

7. Unit Mass

It is S quanta mass energy (or S² Free trees) or **One unit mass is supported** at its unit gravitational centre by **one graviton**, this **unit mass is conventional Planck mass 2.176434×10^{-8} Kg** (the mass roughly equal to size of one flea egg).

One unit mass is maximum power of space matrix to support a load in universe at one (bound tree) point. To support load of bodies made up of multiple unit masses multiple gravitons are required.

Graviton is a boson with spin 2. Spin two means that while rotating by its half rotation, the particle will regain its dumbbell shaped orientation (to understand it, the familiar shape is queen of playing cards; by half rotation of this playing card the queen regains its shape)

S² free trees are in a unit mass (or **Planck's mass**), which are supported by S² kinetons with its total energy **Planck's energy of 1.96×10^9 J (energy of one graviton)**

Some approximations or relations and values.

(A) **The energy in one Kg mass when calculated in Joule**, according to Einstein's equation as $E = mc^2$

If m is one Kg and $c^2 (3 \times 10^8 \text{ meter per sec})^2 = E = 9 \times 10^{16} \text{ J Kg} \times \text{meter}^2 / \text{second}^2$;
(Dimensional formula of energy in joule; $\text{m l}^2 / \text{t}^2$)

(B) Known value of One Planck mass or unit mass = $2.176434 \times 10^{-8} \text{ Kg}$

(D) **One Planck mass (energy in J)** can be calculated from equation (A) and (B) = $9 \times 10^{16} \text{ J} \times 2.17643 \times 10^{-8} \text{ Kg} = 1.96 \times 10^9 \text{ J}$

(E) As per tree model; **one Planck mass (unit mass) = 3.440499×10^{86} free trees.**

(As 1.58079692^{94} free trees are in one Kg mass*, Then on Planck mass = $2.176434 \times 10^{-8} \text{ Kg} \times 1.58079692^{94}$ free tree per Kg = 3.440499×10^{86} free trees, or it is **one unit mass = S² free trees energy = S quanta mass energy.**)

(F) The energy of one unit mass can also be calculated by equation $E = m c^2$

Then calculated energy of 1 unit mass $E = 1 \text{ unit mass} \times (1.85485844 \times 10^{43} \text{ bound treos distance per second; treo model})^2 = 1 \times 3.440499 \times 10^{86} = 3.440499 \times 10^{86} \text{ free treos} \times (\text{bound treos distance, per second})^2$; (Dimensional formula of energy in joule; $\text{m l}^2 / \text{t}^2$)

*See calculation of gravitational constant below

**Speed of light = $1.85485844 \times 10^{43}$ bound treo distance per second) See above

Therefore One unit mass = one Planck mass = $2.176434 \times 10^{-8} \text{ Kg} = 3.440499 \times 10^{86} \text{ free treos} = 1.956 \times 10^9 \text{ J}$ is mass energy of one unit mass.

(!) And as GRAVITON has equal number of 3.440499×10^{86} kinetons, thus this is also kinetic energy of one graviton = $1.956 \times 10^9 \text{ J}$ is kinetic energy of one graviton = **Planck energy**

(!!) *****Kinetic Energy of gravitons in one-meter length** (when one graviton is placed on each bound treo present in one meter length) = 0.618714×10^{35} gravitons in 1 meter; when multiplied by kinetic energy of one graviton we get = $1.956 \times 10^9 \text{ J} \times 0.618714 \times 10^{35}$ gravitons per meter = we get the known value of **Planck's force of 1.2102×10^{44} Newton** (J per meter)

(!!) **Kinetic energy of gravitons in one-meter cube**, this calculates known value of **Planck's energy density.**

(a) $5.155 \times 10^{96} \text{ Kg/m}^3 \times 9 \times 10^{16} \text{ J} = 4.633 \times 10^{113} \text{ J/m}^3$

(b) $1.956 \times 10^9 \text{ J} \times (0.618714 \times 10^{-35})^3 = 4.633 \times 10^{113} \text{ J/m}^3$

*** As length of one bound treo = 1.616229×10^{-35} meter or one Planck least length,

Thus number of bound treos in one meter length = $(1 / 1.616229 \times 10^{-35}) = 0.618714 \times 10^{35}$ bound treos.

These known values of *Planck's energy*, *Planck's force* and *Planck's energy density*, finds its justification as energy of accumulated gravitons at one bound treo (***Planck's energy***), at all bound treos in one meter (***Planck's force***), and on all bound treos in one meter cube (***Planck's energy density***) is thus explained and thus calculated for the first time.

8. Unit Charge

- A. **1eV or One-elementary charge of $1.602176634 \times 10^{-19}$ coulomb**; is the charge of one unit electron. (known value)
- B. But one **unit Electron** is made up of **1.44×10^{64} free treos**. (treo model)

C. Therefore; **charge on one free tree is 1.112167×10^{-83} coulomb.**
 ($1.602176634 \times 10^{-19}$ coulomb / 1.44×10^{64} free trees in one unit electron = $1.11261604 \times 10^{-83}$ coulomb)

D. Thus **one coulomb charge is on $0.898782656 \times 10^{83}$ free trees.** ($1/1.11261604 \times 10^{-83} = 0.898782656 \times 10^{83}$ free trees)

E. **One coulomb charge is on 6.2415×10^{18} electrons.** (Known value)
 Number of free trees has one coulomb charge / number of free trees in one electron = conventional value of number of electrons having one coulomb charge. ($0.898782656 \times 10^{83} / 1.44 \times 10^{64} = 6.2415 \times 10^{18}$ electrons)

F. **Charge mass ratio = 1.7588×10^{11} coulomb / Kg** (Known value)
 (1.5808523×10^{94} Free Trees are in one Kg mass (tree model)* / $0.898782656 \times 10^{83}$ free trees have one coulomb charge) By calculating it according to tree model we get the same value.

9. The Number of 'free Trees' calculated in, [3].

1. **Unit Photon = $1.855394405 \times 10^{43}$ Free Trees**
2. Gamma photon of 1.02 Mev = 2.8724704×10^{64} Free Trees
3. **Unit Electron of 0.511 MeV = $1.439491604 \times 10^{64}$ free trees**
4. *Proton* = $2.64416818 \times 10^{67}$ free Trees
5. *Neutron* = $2.64781297 \times 10^{67}$ free Trees
6. **One Kg mass = 1.5808523×10^{94} Free Trees**
7. Number of trees in one calorie (**calorie = 4.184 joule**)
 = $0.736362761.6 \times 10^{78}$ free trees.

Similarly, by using these values, number of free trees can be calculated in any type of photon, in all type of elementary particle and in any element.

SECTION!!

(Role of curled up five negative dimensions; of voids, the dark energy)

Expansion of Space-Matrix (Basis of 'Hubble Constant',

'Cosmological Constant', and our quantum pendulum universe)

(a) Our space is not empty.

After Einstein's concept of Space time, and its curvature by matter, in 1964 Mr. Peter Higgs proposed Higgs fields [12]. Stephen Hawking argued "*The value of field and its rate of change play the same role as 'position' and 'velocity of a particle'. The 'Heisenberg uncertainty principal' dictates that more accurately one is determined less accurately other can be. Empty space means that both the value of field and its rate of change are exactly zero. Since the uncertainty principal does not allow the value of both the 'field' and 'rate of change' to be exact (i.e. zero), space cannot be empty*".

It can have a state of minimum energy (a non-zero energy state) called 'Vacuum', but this state will be subject to vacuum fluctuation. This is also termed as Quantum foam, out of which virtual particle pairs appear and then annihilate each other. The virtual particles have energy so there should be infinite amount of energy which should curve space-time and should contract universe to infinite small size. But this does not happen, so what prevents it?

'Cosmological constant' was brought forward by Einstein to explain the model of a 'static universe', but when it was proven that our universe is an 'expanding universe', he admitted that cosmological constant was the *greatest blunder of his life*. But again, the **cosmological constant has revived, and being projected as some sort of 'dark energy' of voids, which prevent universe from collapsing.**

After the Oscillating universe theory briefly considered by Albert Einstein in 1930, theorized a **universe** following an eternal series of oscillations, each beginning with a Big Bang and ending with a Big Crunch.

The cyclic theory was revived as **pendulum quantum universe** and reported in 2005[2]. It describes when universe will cool down and fully expanded at its maximum potential energy state, with no deformations on space matrix left, it will violently collapse, immediately followed by big bang which will lead to a fully contracted new universe at maximum kinetic energy stage, fit to generate a new generation of nucleons, in new life span of universe. Thus potential energy and kinetic energy fluctuates occur as in one swing of pendulum with each new cycle of universe.

In 2011 same idea of cyclic universe, came as **conformal cyclic cosmology** [9]. The observed and claimed Hawkins points, diagnosed by undocumented non-standard approach of studying CMBR [10] as marks of super massive black hole vaporization in previous universe, could not be confirmed [11]

(b) The universe is expanding like a balloon.

Let us see, **the role of negative energy incorporated with all five negative dimensional curled up ‘voids’, all of which are continuously uncurling?** Five negative dimensions have, NO Length, NO Breadth, NO Depth, it calibrates passed Time, and absorbs Energy to constantly uncurl each void. There could be only one possible explanation for the ‘balloon like expansion of the universe’ that the **universe is expanding at its each and every point**, with ‘constant flow of time’ and both the expansion of the universe and flow of time are based on a single mechanism. As simultaneous uncurling of all the voids leads to balloon like expansion of universe with passage of time, thus the present size of universe also indicates present age of universe.

The space occupied by each ‘void’ (**its size**) is always increasing due to simultaneous uncurling of its curled up five negative dimensions, @ **“1/S² of present value of Planck least length per vibration” and this is also the value of “cosmological constant” and mechanism of accelerating expansion of universe (according to treo model).**

It is to be noted here, that the **derived value of gravitational constant is S² kinetons per unit mass per second per second’;** (see calculations above)

If the radius of our universe is ‘S² pairs of bound treo and void’ as postulated/calculated in this Treo model (also see below as the Hubbell’s length), then by this combined and simultaneous uncurling of all these voids at each point on its radius, the radius of the universe at its periphery will increase by **one Planck’s least length per vibration.**

Thus our treo model explains why the periphery of universe will always swell up, with the speed of light (i.e. by one Planck least length per vibration). Therefore the size of present universe

measured in light years; is also the Age of universe of 13.799 billion light years. In other words this means the balloon (at periphery) of universe is inflating continuously at the speed of light.

The **accelerating** rate of expansion of universe can be explained, with increased value of Planck least length with each vibration of universe.

When **each void constantly uncurls itself at each point**, it not only expands the universe but thus, simultaneously and continuously tries to flatten ‘whole crumpled deformed space matrix’ of universe. The fully ‘flat sheath of un-deformed space matrix of universe’ is the requirement for big crunch: i.e. death of universe. EM waves are one dimensional pendulum while orbits with two foci are two dimensional pendulum and contracting and expanding ball of universe is three dimensional pendulum.

This constant expansion leads to decrease in its ‘total kinetic energy’ and in turn with continuous increase in its ‘total potential energy’, also results in slow aging of universe (and this is also responsible for aging of all its creatures; which are infect 3D printed free trees on space matrix in different numbers and in different shapes) and all its entities.

(c) To make crumpled space matrix flat like a plain sheath with no wrinkles
(deformations/contractions free)

But along with expansion, one more mechanism is working to **make space matrix flat and free of local deformations**.

To accomplish this task, all cosmic bodies because of their gravitational attraction first gather all matter present around it.

Then the gravitational spheres of all cosmic bodies e.g. Sun, (which are **black holes in formation** or quasi black holes) *along with unit black holes (not singularities but eternally collapsing objects) continuously churn the matter with the production of ‘Hawkins energy pair’ of positive and negative energy particles* i.e. which are recognized as free trees and voids in this model (and are the source of energy needed for outwards flow of ‘Solar wind’ from Sun and similarly from other cosmic bodies). Now **all deformations** (kinetic columns) which were earlier supporting this matter, before it churned out, will eventually **vanish, to result in more**

flattened local space matrix. This behavior is possible hidden purpose of gravitational forces in universe.

By these two mechanisms, total potential energy of universe is increasing, at the cost of decreasing total kinetic energy, with this continuous expansion and flattening of universe; both of which are increasing the 'entropy of universe'.

(d) The end of universe

All matter (mass energy packets) and space matrix geometry, in universe is preserved as long as five negative dimensions of voids are curled up. The continuous uncurling of curled up 'five negative dimensions of voids', at some moment in future, will match with five positive dimensions of trees and then all trees and their full-size adjacent voids will engulf each other instantly (after one life cycle of universe of S seconds, on death day of universe). It will result in a big crunch or 'death of universe', and all space matrix of universe will instantly collapse.

Then the 'resultant sudden contraction of 10 dimensional unstable energy of space matrix of whole universe' around one universal singularity; which will divide it in two equal parts of five positive dimensions of free trees and fully curled up five negative dimensions of voids and will convert dying universe from 'maximum potential energy state' to 'maximum kinetic energy state' of new born universe. With its return to its initial reduced entropy stage which was at start of previous universe; in these reversible cycles of universe, no thermodynamic principal is violated. And thus the 'big crunch' is immediately followed by 'big bang', and then newly formed fully contracted universe starts its new life cycle/and next oscillation of five dimensional pendulum of our 'pendulum quantum universe'.

(e) Universal Singularity

A point of infinite density and gravity- and before this event, space and time did not exist, is conventional definition of Singularity.

We should consider 'singularity of universe' some what like gravitational singularity at 'gravitational centre of a body' at the centre of its 'gravitational sphere'. The gravitational sphere of **unit black hole** support 'S' unit masses' (200 thousand times the mass of sun, which can get totally accommodated being concentrated in S bound tree layers in its gravitational sphere obeying the limitation of radius of mass, with in $2 GM/ r^2$ sphere), which exert a load of S^2 unit

masses at its gravitational centre, in turn is supported by S^2 Gravitons distributed on 'S' concentric layers of its gravitational sphere (300 thousand Km radius), full kinetic column of fourth dimension, according to proposed column geometry [3]. All gravitons direct their force towards its centre i.e. at 'gravitational centre of body'. Outer most layer of this unit black hole rotates at speed of light by S vibrations per second which successively reduces in its each inner layer @ one vibration per layer with **no vibration at its centre (where time will stop)** of this S layered gravitational column which can be called as '**gravitational singularity**'.

This reduction of number of vibrations one by one will successively slow down the speed of rotation of each inner concentric layer. This is necessary to maintain the configuration of rotating kinetic column (which occupies 1/3 area of gravitational sphere), so it can direct force of its all gravitons simultaneously towards its gravitational centre. S graviton column together unite side by side to form gravitational (column) field of this black hole. Our central galactic disk reported to have super massive black hole of 4.1 million sun masses ± 0.034 will have 21 unit black holes arranged according to column geometry in incomplete kinetic column of fifth dimension.

Thus this is inferred that at the time of 'big crunch' the '**universe was of substantial size**'; (it was not a pin point universe) and the '**singularity of universe**' can be viewed in the light of '**Gravitational singularity of a unit black hole**' as described above. This hypothesis also eliminates the need of 'exponent sudden expansion of universe' just after big bang as postulated in previous models of universe.

(f) Hubble's law

Our universe is constantly expanding at each point like an inflating balloon. Thus, the distance between any two points in the universe is constantly increasing and all the galaxies are getting apart. It means that the expansion distance in two-kilometer length is twice that of expansion distance in one kilometer length and it will be tripled in three-kilometer length.

This proposed simultaneous uncurling of all voids can explain this type of expansion of universe. The uncurling of each voids₆ at the proposed rate

" **$1/S^2$ of present value of Planck least length per vibration**" will increase the present radius (S^2 bound trees) of universe by 'One Planck's least length per vibration' which is the speed of light. Thus "**one Planck least length / S^2 per vibration**" is **Hubble's constant H_0** .

(g) 'Present value of Hubble's constant

(Conventionally Hubble's constant or H_0 is used in known formula ($v = H_0 \times D$))

(!) Hubble's constant i.e. H_0 : is 'constant of proportionality', where 'v' is velocity of receding galaxy and 'D' is distance of galaxy.

Rate of expansion of our universe when calculated according to proposed rate, per second per Mega Parsec, in present contracted size of universe (of approximate 13.8 billion light years), matches with the **present accepted value of Hubble's Constant, which is about 70 (+ - 2.4) Km per sec per Mega Parsec***

(!!) Hubble's Time $1/H_0 = S^2$ vibrations ('total life span of universe is S seconds'; from its birth up to the time of its death, at 'big crunch'). While the present age of universe is 13.8 billion light years.

(!!!) Hubble's length $1/H_0 \times c = (S^2$ vibrations as proposed 'life span of universe' \times one Planck's distance per vibration) = S^2 Planck's distances; will be the radius of our universe at the time of 'big crunch'.

** one parsec is 3.26 light years distance, or 30.857 pentameters (10^{15} meters); One mega parsec = one million parsecs*

Conclusion

The script of creation is written in 'Cosmic language' governed by Cosmic Rhythm. The alphabets are Planck units (or Gods' units) which are universal units, and will never change. Leave aside String of Planck least length and Planck mass, nature of other Planck units is thus postulated for the first time. When the SI units are used to express the value of all universal constants, very less information about our universe is divulged, and they fail to describe full picture. The proposed Treo model is basic of all basics. The values thus arrived will help in better understanding of nature and will further help to unveil other hidden secrets e.g. Quantum gravitation.

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