Theory of Universality

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Abstract: This theory is an attempt to describe the universal phenomena like space, time, matter and energy as an inter-relationship bound by a newly discovered force named as the universal force. The universal force is shown to be the force of gravitation, electricity, magnetism, strong nuclear and weak nuclear forces. I believe any other force, hitherto fore not discovered; also, can be explained in terms of this universal force.

Liberal use of wave-particle duality, relativity, quantum concepts is made to achieve a harmonious and comprehensive synthesis of all the existing beliefs in physics into a new theory with some new concepts added here and there. While adding new concepts, enormous care has been taken to ensure that the existing beliefs are not contradicted. Moreover, the new concepts are proved to be correct theoretically by deriving the constants like G, σ , etc.,

Keywords: space, time, matter, energy, universal force

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NOTE: EXPERIMENTAL VALIDATION OF MY THEORY IS GIVEN AT THE PAPER'S END.

I. Introduction

Universe & Universality

From time immemorial, the struggle to understand the phenomena surrounding us, has been our chief occupation, second only to the struggle to survive. After successfully surviving the predators and harmful wild creatures, we have started building secure measures for food, cloth and shelter. Nevertheless, the natural calamities like floods, fire, earthquakes, and disease continue to wreak havoc with all the life and human life in particular. Death and disease could not be overcome fully by all the scientific measures invented so far.

We have started exploring our immediate environment in an attempt to understand the natural phenomena surrounding us. This attempt to understand is only to build safety and survival from the onslaught of the Nature's fury and to harness Nature's forces to the benefit of humankind. In the process, various gods and goddesses are proposed to be the cause of various phenomena. Sometimes, sacrifices are offered to gain the favor of the deities and worship also is done to please the gods and goddesses. For example, many rituals are done to get timely rain and to reap a good harvest. Worship is done for timely sunrise also. Slowly, we have realized the Sun and the Moon follow a regular pattern of rise and set whether a worship is done or not, and whether a sacrifice is made or not. We also, came to know that the celestial bodies behave in a regular pattern. Hence, the proposal came that the Earth was the centre of the world and the celestial bodies went around the Earth according to this pattern. Later investigations revealed that the Earth and the planets are spherical bodies which went around the Sun. Further, it was revealed by Newton's gravity and confirmed by Einstein's' relativity that gravity is indeed the major force acting among the celestial objects including our solar system.

Moreover, we have generalized the natural phenomena in the form of laws; because, they seem to follow the same behavior wherever and whenever we observe. Based on this observation, certain theories are proposed as the explanation for the behavior of the phenomena on the Earth and with regard to the celestial objects. A theory is a set of assumptions and rules, which describes the way the celestial bodies behave including the Earth on which we live. If the predictions made by the theory are observed in practice and also, if the theory can answer all the related questions, then, that theory is deemed as valid and used for further understanding of the universe.

As time progresses, better and more refined theories of the universal behavior are put forth for accurate, complete and comprehensive understanding of the universe we live in. Our ultimate goal is a total understanding of the universe. With the help of such understanding we can protect our life along with Solar System and Milky Way Galaxy against a possible, natural, cosmic calamity. So far, our assumption about the universe is that the

laws which are valid on the Earth and the Solar System are also universally valid. This universality of the laws is at the basic core of the 'Theory of Universality' developed by the author. .

This theory is an attempt to describe the universal phenomena, the inter-relationships among the four fundamental quantities space, time, matter and energy with a precise and accurate mathematical quantification of the relationships. In the process, a force, named as universal force pervading the universe; and, which in turn manifests as every other force locally or universally present is also described. That is to say there is only one force, the universal force. Every/any other force is a manifestation of universal force.

Liberal use of Einstein's relativity, deBroglie's wave particle duality, Planck's quantum radiation is used to synthesize all the existing beliefs into a harmonious and comprehensive "Theory of Universality".

II. Postulates

- 1. Space is the medium using which light travels.
- 2. Speed of light is the critical attainable speed in our universe.
- 3. The universe when the projection of time (4th dimension) is taken on a three dimensional medium, is like the two-dimensional sheet (shadow) model of a three dimensional object in 2-dimensions.
- 4. Nothing in the universe can be fully destroyed.
- 5. Space, Time, Matter and Energy are inter-related. They exist together in anywhere and everywhere in the universe. None of the four fundamental quantities like space, time, matter and energy is uniquely existent in the universe.
- 6. There exists a very powerful force to be named as the universal force, because of which other forces like gravitation, electromagnetism, strong and weak nuclear forces manifest.
- 7. The universal force condenses space into matter.
- 8. Every physical law has some inertia of existence which is quantifiable in space-time-matter-energy frame of the universe.
- 9. Any physical law can be created and preserved with a certain inertia in space-time-matter-energy frame.
- 10. The truth of the universe keeps changing depending on where, how and at what time the observation for a certain truth is made with an inclination to reach experimental proof of theoretical conjectures.

In all, there are ten vital formulae; six of them describe the relationship among space, time, matter and energy; four of them describe the relationship between universal force and space, time, matter and energy.

III. Indentations And Equations

Assume that there is a particle of mass m, Compton wave length ℓ ; let, the energy stored in it be E. Assume, the universal force utilized in creating the particle is F. Here, let me assert that the universal force which created the particle also bestows on it a time of 't', t is the time of inertia of existence the particle will have during which its changes become nil. Any change anywhere in the universe manifests as time. The time inertia (also called laziness of the particle) between two successive changes is 't'. Then the 10 (ten) formulae giving the relationship among space, time, matter and energy and F are as follows:

1 $E = mc^2$	Einstein's mass-energy equivalence
2. $\ell = h/mc$	space-mass equivalence
3. $t = h / mc^2$	mass-time equivalence
4. $E = hc / \ell$	Energy-space equivalence
5. $E = h / t$	Energy-time equivalence
$6. \ \ell = c \ t \dots$	space-time equivalence
7. $F = hc / \ell^2$	Force-space equivalence
8. $F = h / c t^2$	Force-time equivalence
9. $F = E^2 / c h$	Force-energy equivalence
10. $F = m^2 c^3 / h$	Force-mass equivalence
Where h= Planck's constant ; c= speed	of light
Derivation of the equations:	-

1. $E = m c^2$ is the popularly already- known equation of energy-mass equivalence of Einstein's



Space, is like a sheet in the 4th dimension of time, That is, assuming we have entered the 4th dimension of time, and, we are able to perceive past, present, and future as one; then, the 3 dimensional space, would look like 2-dimensional shadow in the time frame. The universal force F condenses space into matter. Suppose the energy spent / created in creating a particle of mass m is E. Suppose, the Compton wave length of the particle is ℓ , with a time inertia (also called laziness of the particle) of t. The mass - space vibration within the particle moves at a speed c, speed of light, to achieve simultaneity every where. Then, by wave - particle duality (of Louis d' Broglie):

 $\ell = h / m c$ - this is true in case of proton.

m = rest mass of neutron or proton = 1.674×10^{-27}

h = Planck's constant = 6.626×10^{-34}

 ℓ = proton Compton wavelength works out to be 1.319 X 10⁻¹⁵

by above equation of $\ell = h / m c$; which agrees with the experimental value of 1.321441 X 10⁻¹⁵--- proved ! (all in MKS units). Similarly, in the case of an electron; $\ell = h / m c$.

 $m = 9.109 \ X \ 10^{-31} \ c = 3 \ X \ 10^{8} \ h = \ 6.626 \ X \ 10^{-34}$

 ℓ works out to be 2.424 X 10 ⁻¹² which is Compton wavelength of an electron which agrees with experimental result of 2.4263107 X 10 ⁻¹² – proved !

So , the equation $\ell = h / m c$; where ℓ is Compton wavelength ; m is the rest mass is true in the case of proton / electron.

3. $t = h / m c^2$

By Planck's principle of Quantum radiation of energy; this very particle behaves like an energy packet of wavelength ℓ (ℓ is the Compton wave length) and time t.

 $\mathbf{E} = \mathbf{m} \ \mathbf{c}^2 = \mathbf{h} \ \mathbf{v} = \mathbf{h} / \mathbf{t} \qquad \rightarrow \mathbf{t} = \mathbf{h} / \mathbf{m} \ \mathbf{c}^2$

This implies that for an electron $m = 9.109 \text{ X } 10^{-31} \text{ kg};$

t= 8.081×10^{-21} (all in MKS units everywhere) is the laziness or time inertia. This means that between two successive changes to an electron; there must necessarily be a period of 8.081×10^{-21} seconds. After which period only, a change can be enforced on an electron. So, it is impossible to change an electron in position or pace or state faster than this. If so, it will no longer be electron.

4. $E = h c / \ell$. We already know that E = h v (Planck's theory). But, $v = c / \ell$, v is the frequency of the energy packet contained in the particle. $\rightarrow E = h c / \ell$

5. E = h / t, This is simple; because, E = h v; and $v = 1/t \rightarrow E = h / t$.

Note: it is assumed that a particle of time inertia t., will also behave like a wave of cycle time 't' ., when converted into energy E. therefore, E = h / t.

6. $\ell = c t$. Now, the particle has mass 'm' in all directions of observation, and points of observation within the particle. This is possible only when the mass-space vibration within the particle moves at the speed of light (to ensure simultaneity) of wavelength ℓ (Compton wave length).

 $\ell / t = c \rightarrow \ell = c t$

7. F = h c / ℓ^2 – when universal force F ; acts on the particle to create a particle of Compton wave length ℓ ; the energy spent / created is;

F. $\ell = h v = h c / \ell \rightarrow F = h c / \ell^2$

A force of universal force = 3.395×10^{-2} Newtons is spent in creating the particle electron.

8. $F = h / c t^2$. It is assumed that the time inertia of a particle is the same as its cycle time when converted into energy-wave. This means $\ell = c t$; applied to the equation -7 gives:

 $F = h c / \ell^2 = h c / c^2 t^2 = h / c t^2$. $\rightarrow F = h / c t^2$ 9. $F = E^2 / c h$. Energy spent in creating a particle of Compton wave length ℓ , from the basics of physics is E = F. ℓ . Therefore, $F = E^2 / ch$ 10. $F = m^2 c^3 / h$. from equation -9, we have $F = E^2 / ch$. We know that, $E = m c^2$. therefore, $F = m^2 c^3 / h$. IV. PROOF

Proof that my theory is correct and valid follows. I will theoretically derive the value of 'G' (gravitational constant) and show that this coincides with experimental value.

Consider the gravitational constant as G, and take the gravitational force between the Sun and Earth as F. We know that

$$F= \frac{G M_1 M_2}{R^2}$$
. where $M_1 = \text{mass of Sun}$
 $M_2 = \text{mass of Earth}$
 $R = \text{mean distance between the}$
Earth and the Sun

But, according to my theory of universality, the universal force exerts a force of m² c³/ h for the particle. In the case of Sun, this universal force of the various atoms is compensated by various layers of the particles within the Sun; except the upper – most layer. In the case of upper-most layer, half of the tension created by the universal force on space appears as gravitation towards the outer space away from the Sun, the other half is turned inwards..... and is duly compensated within. No. of atoms (mostly Hydrogen) on the outermost layer of Sun is

$$\frac{4 \pi R_1^2}{4 \pi r_1^2}$$
: where R_1 is the outermost layer's radius on Sun
and r_1 is the mean free path of the Hydrogen atom on the
Sun's surface. The factor $4 \pi r_1^2$ is taken because hydrogen moves in 3 dimensions.

The comprehensive force released by this on the outer space away from the Sun is :

$\frac{4 \pi R_{1}^{2}}{4 \pi r_{1}^{2}}$	$\frac{m^2 c^3}{h}$	÷	1/2 : the factor 1/2 appears because the other half is turned within. Therefore, the gravitational force exerted by the Sun is :
			exerced by the Sun is :

$$\frac{1}{2} \cdot \frac{4 \pi R_1^2}{4 \pi r_1^2} \cdot \frac{m^2 c^3}{h}$$

The force experienced by the Earth due to the force emanating from the Sun is

$$\frac{4 \pi R_2^2}{4 \pi R^2}$$
fraction of the total force :=> F = C $\frac{M_1 M_2}{R^2}$ = ½ . $\frac{4 \pi R_1^2}{4 \pi r_1^2}$. $\frac{m^2 c^3}{h}$. $\frac{4 \pi R_2^2}{4 \pi R^2}$

Where R₂ is the radius of the Earth; R is mean distance between the Sun and the Earth . The fraction only is experienced because that is the area covered by the Earth. If the total area of $4 \pi R^2$ from the sphere encompassing the Earth is considered. Again , half of this is not considered because, this is fully experienced by the Earth and therefore, this is the gravitational force exerted by the Sun and experienced by the Earth from the Sun. (Actually, volume and density should be taken. As an approximation area is taken)

Note: all values are taken in MKS units everywhere.

$$\Rightarrow G = \frac{R^2}{M_1 M_2} \cdot \frac{1}{2} \cdot \frac{4\pi R_2^2}{4\pi R^2} \cdot \frac{m^2 c^3}{h} \cdot \frac{4\pi R_1^2}{4\pi r_1^2} - A$$

r ₁ = mean free path of the Hydrogen atom on the Sun's surface @ nearly 6000° K. Mean free path of air @ 288° K = 6.6317 X 10⁻⁸. So, for Hydrogen atom approximately at temperature of 6000 ° K.

$$r_1 = 6.6317 \times 10^{-8} \times \frac{6000}{288} \times \frac{28.986}{1} = 4.14481 \times 10^{-5}$$
 metres

(Actually, the mean free-path of air = 6.2205×10^{-8} m. And 28.986 is the average air weight : 1 is Hydrogen atomic weight on Sun's surface @ $6000 \circ$ K. Hydrogen in that environment is in atomic state and not in molecular state. It is assumed that mean free path is directly proportional to the temperature and inversely proportional to the atomic weight). So, r₁ is actually = 3.88781×10^{-5} m.

In the derivation of the gravitational constant G, the factor 1 was taken for the universal force on the outer space atoms of Hydrogen on SUN; because, this factor 1= atomic weight of Hydrogen atom for proton was taken in the derivation of the mean free path for Hydrogen atom on the sun's surface (atmosphere) @ 6000 ° K, because the Hydrogen is in atomic state and not in molecular state.

 r_1 = mean free path of Hydrogen on sun's Surface = 3.88781 x 10⁻⁵ m.

- $R_2 = Radius of Earth = 6.371 X 10^6$
- R₁ = Radius of Sun = 6.960×10^{8}
- m = mass of the proton = $1.674 \text{ X} 10^{-27}$
- c = Speed of light = 3×10^{8}
- h = Planck's constant = 6.626×10^{-34}
- $M_1 = Mass of Sun = 1.99 X 10^{-30}$
- M $_2 = \,$ Mass o f Earth = 5.977 X 10 24

Substituting the above values for r $_{1}$, R $_{2}$, R $_{1}$, m , c , h , M $_{1}$, M $_{2}\,$ in

equation – (A) above;

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we get G = 6.6728 \times 10^{-11}
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which agrees with the experimental value of 6.673×10^{-11} .

The slight discrepancy can be due to the various assumptions and approximations and the too simple an approach taken for evaluating the mean free path of Hydrogen atom on the Sun's surface.

Hence, my theory is proved to be right !

Derivation of Stephen's constant : (MKS Units)

To prove my theory is right and valid once again : Consider the total force emanating from the sun is

$$F = \frac{1}{2} \cdot \frac{R_1^2}{r_1^2} \cdot \frac{m^2 c^3}{h}$$

according to my theory.

Where $r_1 = 3.88781 \times 10^{-5}$ m.is the mean free path of Hydrogen on Sun's atmosphere. But , according to my force – energy equivalence ,

$$F = E^{2}/ch \Rightarrow E = \sqrt{Fch} \Rightarrow E = \sqrt{\frac{1}{2} \frac{R_{1}^{2}}{r_{1}^{2}}} \frac{m^{2}c^{3}}{h} ch = \frac{1}{\sqrt{2}} \cdot \frac{R_{1}}{r_{1}} mc^{2}$$

: because of this energy outpouring away from the Sun ; the maximum power emanating from the Sun is E / t $_p$ where t $_p$ is the time inertia (or laziness of proton). t $_p$ is the minimum time required for releasing energy by Sun's outermost Hydrogen surface. Therefore, maximum power released by the sun is ,

$$P = E / t_p = \frac{1}{\sqrt{2}} \cdot \frac{R_1}{r_1} \cdot \frac{mc^2}{t_p}$$

where t $_{p}$ = h / m c 2 according to my theory.

But, according to Stefan-Boltzmann law of radiation : the total energy, E, of all wave lengths radiated per second per square meter by a full radiator at temperature T to surroundings at temperature T_o is given by $E = \sigma$ (T⁴ - T⁴_o), where σ is Stefan's constant. The maximum power released by Sun (considered as full radiator) at any time is σ (T⁴-T⁴_o)X 4 π R₁² ---- C

where $4 \pi R_1^2$ is the total surface area of Sun. Now, $T_0 = 0^0 K$ (approximately)

Therefore, from
$$\bigcirc$$
 & \bigcirc $\sigma = \frac{1}{4\pi T^4} \cdot \frac{1}{\sqrt{2}} \cdot \frac{1}{r_1R_1} = \frac{m^2c^4}{h}$

Substituting values for T, R $_1$, r $_1$, m , c, h ; we get

 $\sigma = 5.6653 \text{ X} 10^{-8}$; which agrees with the experimental value of

 $\sigma = 5.66969 \text{ X } 10^{-8}$, hence, my theory is RIGHT.

The slight discrepancy can be due to the approximations made in T, T₀, r₁

Values used are :

- T = Surface temperature of Sun = 6000° K
- $T_0 =$ Temperature of surroundings (approximately) 0 0 K
- m = mass of proton/ neutron (rest mass) = $1.674 \times 10^{-27} \text{ kg}$
- c = speed of light = 3 X 10 8 R ₁ = radius of sun = 6.960 X 10 8
- r_1 = mean free path of Hydrogen on sun's surface = 3.88781 x 10⁻⁵ m.
- h = Planck's constant = 6.626×10^{-34}

Further Proof :

Here, follows further proof that my theory is right and valid . I will now theoretically derive the values of $\in_{0,}$ μ_{o} , e and show that they coincide with the experimental results.

- \in_0 = free space permittivity
- μ_o = free space permeability
- e = elementary charge of electron/proton

First, derivation of \in_0

One more postulate in my theory:

Charge e, is same as mass m_e of electron on its classical radius r_e . Electron's Compton wavelength is the wavelength it behaves (is observed) as a wave ℓ_e . Electron behaves like a mass of m_e (rest mass), wavelength (ℓ_e) of Compton wavelength, laziness $t_e = h / m_e c^2$ and an energy packet of $m_e c^2$, and a charge e all at the same time and also like a particle. That is e, m_e , r_e , ℓ_e , E_e are all synonymous at the same time. What you get is what you are observing for. Energy due to electronic charge =

$$\Rightarrow \in_{0} = \frac{1}{4\pi} \frac{e^{2}}{r_{e}} \cdot \frac{1}{m_{e}c^{2}} = \frac{1}{4\pi} \cdot \frac{(1.602 \times 10^{-19})^{2}}{2.817 \times 10^{-15}} \cdot \frac{1}{9.109 \times 10^{-31}} \cdot \frac{1}{9 \times 10^{16}}$$
$$\in_{0} = 8.842 \times 10^{-12} \text{ Fm}^{-1} \dots \text{ which agrees with experimental value}$$
of 8.854 X 10⁻¹² Fm⁻¹ PROVED !

 $\epsilon_0 = 8.842 \ \text{X } 10^{-12} \text{ Fm}^{-1}$ which agrees with experimental value of 8.854 X 10⁻¹² Fm⁻¹ PROVED !

Which again proves that the assumption in the postulate is true and valid. Now, to derive the value of μ_o (free space permeability):

We know; by using Ampere's law; the force of electron and proton as elements of current is $(\mu_o e^2 c^2)/4\pi r^2$; where r is the Hydrogen covalent radius; which means the mean distance between proton and electron (i.e., 28pm).

According to my theory of universality, the force (universal force)

due to a particle of mass m is $\frac{m^2 c^3}{h}$

the force due to proton in Hydrogen is $(m)^2\ c^3\,/\,h$ from the nucleus ; the force experienced by electron in the orbit would be

$$\frac{m^2 c^3}{h} \quad \cdot \quad (4/3 \ \pi \ r_e{}^3) / (4/3 \ \pi \ r^3)$$

Where r $_{\rm e}~$ is the classical radius of electron and r is the covalent radius of Hydrogen. Therefore,

$$\frac{\mu_{0} e^{2} c^{2}}{4 \pi r^{2}} = \frac{m^{2} c^{3}}{h} \frac{r_{e^{3}}}{r^{3}}$$

Substituting , the values for all except $-\mu_o~$; we get,

 $\mu_o = 1.0637748 \text{ x } 4 \pi \text{ x } 10^{-7}$ MKS units.

Which agrees with the experimental value of $4 \pi \times 10^{-7}$ for μ_o

And μ_r is approximately 1 (one) for Hydrogen. Hence, my theory is once again proved to be right and valid. Note: the universal force due to electron is considered negligible. Hydrogen in ICAO atmosphere is considered, because only then μ_r is 1. Value of e : Once again, consider the electronic charge – energy ;

and equate it to mass-energy $m_e c^{2} = e^2 / (4 \pi \epsilon_0 r_e)$

According to my theory charge and mass are same at the same time

Substitute $\epsilon_0 = 8.854 \text{ X} 10^{-12}$ in MKS units and we get $e = 1.603 \text{ X} 10^{-19}$

Which agrees with experimental result of 1.602192 X 10⁻¹⁹. I have derived G, σ , ϵ_0 , μ_0 , using my theory and they have all agreed with experimental results. Hence, my theory is right and valid including the postulates made therein. In the derivation of μ_0 Electron's classical radius and volume is considered ; because electron is taken as one continuous and cohesive particle ; in which case, area is not applicable.

Discoveries : (PREDICTION – 1) :

I have made a discovery that the Earth is exerting a force on the sun which is nearly 20,000 billion 1. times (2 X 10^{13}) the force which the Sun is exerting on the Earth. The force exerted by Sun on the Earth is manifesting mostly as gravitation. PROOF is given in Annexure-VIII.

Force emanating from Sun and exerted on the Earth

Force emanating from Sun and exerted on the Earth

$$F_1 = \frac{R_1^2}{r_1^2} \cdot \frac{m_1^2 c^3}{h} \cdot \frac{R_2^2}{R^2} \cdot \frac{1}{2}$$

Similarly emanating from Earth and exerted on the Sun

$$F_{2} = \frac{R_{2}^{2}}{r_{2}^{2}} \cdot \frac{m_{2}^{2}c^{3}}{h} \cdot \frac{R_{1}^{2}}{R^{2}} \cdot \frac{1}{2}$$

(according to my theory). $\frac{F_{2}}{F_{1}} = \frac{m_{2}^{2}r_{1}^{2}}{m_{1}^{2}r_{2}^{2}} - \cdots$ (1)

 m_1 = elementary particle mass of Hydrogen on Sun's surface.

 $= 1.674 \text{ X} 10^{-27}$

 r_1 = mean- free path of Hydrogen on sun's surface = 3.88781 x 10⁻⁵ m.

Regarding the Earth's surface sans the atmosphere,

Nearly 75% is water ; 25% is sand which is mostly silicon

Silicon density = 2300; water density = 1000

Average surface density = 1325

Silicon molecular weight= 28.09

Water molecular weight = 18.02

Average surface molecular radius r_2 is given by

$$\begin{split} r_{2}{}^{3} &= (\underbrace{0.75 \times 18.02 + 28.09 \times 0.25} \times 1.674 \times 10^{-27} \times \frac{3}{4\pi} \\ r_{2} &= 1.83 \times 10^{-10} \text{ (Approximate)} \\ m_{2}/m_{1} &= 0.25 \times 28.09 + 0.75 \times 18.02 = 20.5375 \\ F_{2}/F_{1} &= 2163.7258 \times 10^{10} \\ \text{Substituting } m_{1}, r_{1}, m_{2}, r_{2} \text{ in equation } \dots \dots 1 \quad \text{above; we get} \\ F_{2}/F_{1} &= 2163.7258 \times 10^{10} \end{split}$$

which is nearly 20,000 billion times ; or 2 X 10¹³ times

 $F_2 / F_1 = 1903.7198 \text{ x } 10^{10}$, if we substitute $r_1 = 3.88781 \text{ x } 10^{-5} \text{ m}$.

The Earth exerts a force which is nearly 20,000 billion times (the gravitational force of sun on the Earth) on the sun. The sun is fusing with Hydrogen as the fuel. The enormous force (nearly 20,000 billion times the sun's gravity on earth), which the Earth is exerting on the Sun helps Hydrogen to fuse and helps sun to remain a shining star. The planets may be dragging Sun in the Galaxy.

2 . Planets are drifting away from the sun . (REFER ANNEXURE - II)

The energy released by sun causes space of equivalent amount to be released at the same time. Because of this release of space, all planets are drifting away from the sun as given below.

$$E = \frac{hc}{\ell} \neq \ell = \frac{hc}{E} = \sqrt{\frac{hc}{Fch}} ; \text{ and } v \text{ is the speed of drift of the space}$$

$$\begin{bmatrix} t_p = \frac{h}{mc^2} \end{bmatrix} \Rightarrow v = \sqrt{\frac{mc^3}{Fch}} = \frac{mc^3}{\sqrt{\frac{1}{2} - \frac{R_1}{r_1}}} = \sqrt{2 \cdot \frac{r_1}{R_1}} c \Rightarrow v = \sqrt{2 - \frac{r_1}{R_1}} c$$

Where r_1 , is the mean free path of Hydrogen atom on the surface of the sun and R_1 is the radius of the sun . This is approximately 2.4382 $\rm X10^{-5}~m/sec$.

Which is approximately 768 m / year. v = 768 m/year. This is the rate of Compton wave length of space released radially at the solar- corona,(solar-corona is considered; because inside this Solar Corona, the atmosphere interferes with space released). An accurate derivation is given in Annexure – II

IV. Conclusions

- 1. The discrepancy in evaluating G & σ as compared to the experimental result is negligible.
- 2. It is possible to create any physical law and give it a certain amount of inertia in space time matter energy frame.
- 3. It is possible to create planets , stars , satellites to the planets and it is equally possible to change and control the movement or momentum of any celestial body in the universe.
- 4. Reflection of light in a mirror is due to the nuclei gravity of the mirror. Incidentally, every neutron behaves like a black hole. The neutron gravity (super gravity) bends light in a U turn . There is a time mirror on the surface of neutron because of which ; the reflection (image) looks equidistant from the mirror as the object.
- 5. Refraction of light is the bending of light by neutrons (black holes) within the atom .
- 6. The black hole surface acts like a time mirror showing future as past.
- 7. Gravity nullification can be achieved for gravity zero travel.

- 8. Every object in the universe displays time inertia (also called laziness) ; which is quantifiable as $t = h / m c^2$
- 9. Intelligence = memory X thinking (a product), whenever either becomes zero ; Intelligence becomes nil .
- 10. There is extra-terrestrial intelligent life.
- 11. There is time crunch in the universe as in the case of lightning. The same event is described by light faster than sound. Sound is not only coming after lightning is seen; but, also the thunder is heard for longer time than the time lightning is seen.
- 12. The laziness of any physical body is $t = h/mc^2$; the duration during which no change can be enforced on the particle or body in any manner whatsoever.
- 13. Thought (impulsive thought) is a gravity wave.
- 14. Cosmic waves can influence our intelligence, memory and thinking.
- 15. Earth moves or any celestial body moves in jerks and not in a continuous manner..... similar to Planck's hypothesis that energy moves in Quanta.
- 16. Any event is described by light, sound, and others over different durations of time.
- 17. Smell and taste travel like sound, energy, light etc.,
- 18. Thinking can be known in advance (or at the same time) if we can sense gravity waves.
- 19. We can achieve vehicle less travel other than walking, running, jumping, falling and crawling...Etc.,
- 20. We can predict certain events (all, if required)
- 21. There is no perceptible boundary to the universe in space-time-matter-energy frame.
- 22. We can generate thinking in others along the pattern we desire using gravity waves.
- 23. Time moves in a circle called circle of time. Any single point on it is present ; when we move in time by perception of changes around us ; we go into past and future at the same time from present. Any change anywhere manifests as time.
- 24. Time and passage of time are same.
- 25. Absolute time is maintained by black hole.
- 26. There is no zero time except on black hole.
- 27. All forces are components of the universal force ; manifestation of universal force

New Discovery: The Sun and the planets in our Solar System are going at a speed in the universe higher than the speed of light.

Observations

- 1. The Earth going round the Sun has a speed (in an absolute sense) higher than the speed of the Sun , whatever the speed of the Sun maybe. (That is the Earth has its own speed plus the speed of the Solar System along with the speed of the Sun).
- 2. The starting mass of all celestial bodies is same.
- 3. A celestial body (like the Earth) going at a speed higher than the speed of the Sun has a mass less than the mass of the Sun. This is possible only if both are going at a speed higher than the speed of light as per equation.

$$m = \sqrt{\frac{m_0}{1 - \frac{v^2}{c^2}}}$$

Conclusion: This means that we are in a $-v \in$ World. The world of anti-matter.

Incidentally, there is a massive black hole in the Centre of the Universe around which the rest of the Universe is going around. The black hole is the window to the + v e world.

Proof:

Assume:

- M = Mass of the Sun
- $M_2 = Mass of mercury$
- $M_1 = Mass of Venus$
- T_2 = Period of Rotation of Mercury Round the Sun
- T_1 = Period of rotation of Venus round the Sun
- V_2 = Speed of the planet mercury round the sun
- V_1 = Speed of the planet Venus round the sun
- M_0 = Starting mass of all the celestial bodies in the Solar system
- R_2 = Mean distance of mercury from the Sun
- R_1 = Mean distance of Venus from the sun

[Refer Annexure - IV]

c = Speed of light

Then,

$$M = \sqrt{\frac{M_0}{1 - \frac{v^2}{c^2}}} \text{ and } M_1 = \sqrt{\frac{M_0}{1 - \frac{(v+v_1)^2}{c^2}}} \text{ and } M_2 = \frac{M_0}{\sqrt{1 - \frac{(v+v_2)^2}{c^2}}}$$

$$\Rightarrow M \sqrt{1 - \frac{v^2}{c^2}} = M_1 \sqrt{1 - \frac{(v+v_1)^2}{c^2}} = M_2 \sqrt{1 - \frac{(v+v_2)^2}{c^2}}$$

$$\Rightarrow (M^2 - M_1^2) v^2 - 2 v v_1 M_1^2 - M_1^2 v_1^2 - c^2 (M^2 - M_1^2) = 0 \text{ ; we know that}}$$

$$M^2 >> M_1^2 \text{ i.e., } M^2 - M_1^2 = M^2$$

$$\Rightarrow M^2 \cdot v^2 - 2 v v_1 M_1^2 - (M_1^2 v_1^2 + c^2 M^2) = 0 \text{ ; Approx}}$$

$$\Rightarrow v = 2 v_1 M_1^2 \pm \sqrt{4 v_1^2 M_1^4 + 4M^2 (c^2 M^2 + M_1^2 v_1^2)}} \text{ ; } c^2 M^2 >> M_1^2 v_1^2}$$

$$\Rightarrow v = 2 v_1 M_1^2 \pm \sqrt{4 v_1^2 M_1^4 + 4c^2 M^4}} \text{ Approx ; } c^2 M^4 >> v_1^2 M_1^4$$

$$\Rightarrow v = v_1 - \frac{M_1^2}{M^2} \pm c = 2.0993 \times 10^{-7} \pm c \begin{cases} v_1 = 0.35032 \times 10^5 \text{ m/s} = \frac{2\pi R_1}{T_1} \\ M_1 = 4.869 \times 10^{24} \text{ kg} \end{cases}$$

Now, I will re-derive the Kepler's laws of planetary motion to prove that all the above assumptions

are correct.

$$M_{1} = \frac{M_{0}}{\sqrt{1 - \frac{(v + v_{1})^{2}}{c^{2}}}}; M_{2} = \frac{M_{0}}{\sqrt{1 - \frac{(v + v_{2})^{2}}{c^{2}}}}$$

 $\Rightarrow M_0^2 = M_1^2 (1 - (v + v_1)^2) = M_2^2 (1 - (v + v_2)^2)$



 $\Rightarrow M_1^2(2vv_1 + v_1^2) = M_2^2 . (2vv_2 + v_2^2); v \text{ is very nearly equal to c}$ as per above i.e., v = c

$$\Rightarrow M_1^2 (2c v_1 + v_1^2) = M_2^2 (2 c v_2 + v_2^2)$$

Since c is very much greater than v1 and v2

$$M_{1^2} \cdot 2 c v_1 = M_{2^2} \cdot 2 c v_2$$

$$\Rightarrow M_1^2 v_1 = M_2^2 v_2$$
$$\Rightarrow M_1^2 v_1 = M_2^2 v_2$$

$$\Rightarrow M_1^2 v_1 = M_2^2 v_2 \Rightarrow M_1^2 v_i = \text{constant}$$

In the case of planets $M_i^2 v_i$ = constant where M_i is the Mass of the planet and v_i is its rotational speed around the sun.

In the case of planets $M_i^2 v_i$ = constant where M_i is the Mass of the planet and v_i is its rotational speed around the sun.

The energy of a planet due to rotation around the sun is 1/2 M1v12

The force is
$$\frac{M_1 v_1^2}{R_1}$$

But , from my theory of Universality a force F is equal to an energy E given by E = $\sqrt{F.ch}$; where h = Planck's constant

This implies that $\frac{1}{2} M_1 v_1^2 = \sqrt{\frac{M_1 v_1^2}{R_1}} H \Rightarrow M_1^2 v_1^4 = \frac{4M_1 v_1^2}{R_1} H \Rightarrow M_1 = \frac{4ch}{R_1 v_1^2}$

Substituting in \bigcirc i.e., M_i² v_i = constant, we get

$$\frac{16 c^2 h^2}{R_1^2 v_1^4} v_1 = \text{constant} \Rightarrow \quad \frac{16 c^2 h^2}{R_1^2 v_1^3} = \text{constant}$$

But, we know that $v_1 = \frac{2\pi R_1}{T_1}$; where T_1 is the period of rotation around the sun, by the planet.

$$\Rightarrow \frac{16 \text{ c}^2 \text{ h}^2 \cdot \text{T}_1^3}{\text{R}_1^2 \cdot 8\pi^3 \text{R}_1^3} = \text{constant} \Rightarrow \frac{\text{T}_1^3}{\text{R}_1^5} = \text{constant} \qquad \textcircled{B}$$

By Kepler's laws of planetary motion:

- 1. Planets sweep equal areas in equal times $\frac{\pi R_1^2}{T_1} = \text{constant}$
- The square of the periodic time is proportional to the cube of the mean distance of the planets from the Sun.

$$\frac{R_{1^{3}}}{T_{1^{2}}} = \text{constant} ----2$$

By equations 1 and 2; we get

$$\frac{\pi R_1^5}{T_1^3} = \text{Constant} \Rightarrow \frac{R_1^5}{T_1^3} \text{ constant} \Rightarrow \boxed{\frac{T_1^3}{R_1^5}} = \text{constant} = C$$

Now , Both B & C are the same.

Hence, Kepler's Laws are proved as per theory of Universality. This implies that the assumptions :

1. The planets and sun are traveling at a speed higher than the speed of light.

2. The starting mass of all celestial bodies is the same;

are both correct and valid.

I have made a lot of approximations (reasonable approximations) in deriving the above. However, I believe the concept is more important than precision.

V. Annexure - I

1.Boltzmann Constant (k) :

As per kinetic theory of matter; the molecules of an ideal gas at temperature (T) have a mean thermal kinetic energy given by E = (3/2) kT; in 3-dimensions where k is Boltzmann constant. However, in unidirectional consideration; the same is $E= \frac{1}{2} kT$. The Sun's surface has mostly Hydrogen in atomic state. But, when hydrogen particles collide; they can fuse; the fusion dynamics being altogether different; let us take helium an inert gas; which does not fuse at the Sun's surface as reference. The layer below the Hydrogen layer is mostly Helium. Helium molecule has a mean free path given by

 $r = 6.6317 \times 10^{-8} X (6000/288) X (28.986/8)$

Where. 6.6317×10^{-8} = mean free path of air (a) 288° K

- 6000° K = Temperature of the Sun's photosphere
- 288^{0} K = ICAO temperature of air.
- 28.986 = Average molecular weight of air.
- 8 = molecular weight of Helium (two He monoatomic molecules)

Helium exists as molecules on Sun's surface; $r = 0.5005897 \times 10^{-5}$

Now, suppose the Kinetic energy of Helium molecule is E; The Helium molecule travels in a linear path until collision. By my theory, E is equal to a force F given by $F = E^2 / c h$. So, the Helium molecule travels with this force until collision, which is assumed perfectly elastic.

This implies : $F \cdot r = (E^2/ch) \cdot r = E \implies E = hc/r$.

Now, in one directional movement; which the Helium molecule does; till next collision:

This implies : $F \cdot r = (E^2 / c h) \cdot r = E \Rightarrow E = h c / r$.

Now, in one directional movement; which the Helium molecule does; till next collision:

 $(\frac{1}{2}) \text{ k T} = \text{hc}/\text{r} \Rightarrow \text{k} = (2/\text{T}).(\text{hc}/\text{r}) = \frac{2}{6000} + \frac{6.626 \times 10^{-34} \times 3 \times 10^8}{0.5005897 \times 10^{-5}}$

k = 1.3236389 X 10-23; which agrees with experimental value of

k = 1.38062 X 10-23

 $k = 1.3236389 \text{ X } 10^{-23}$; which agrees with experimental value of

 $k = 1.38062 X 10^{-23}$

2.Hubble's Constant H₀:

Hubble's law is $v = H_0 R$.

The Sun as per my theory is traveling at a speed c + v; where $v = 2.0993 \times 10^{-7}$; light is the information carrier. With respect to the light (which is used to get information about the speed of separation of stars); the relative speed of separation of Sun is v. This is the speed of separation (v) at the solar corona edge i.e.,21.14 Rs. (Approx). R_s is the radius of Sun's photosphere. = 6.96 X 10⁸ m Actually R_{s-corona} = 21.14 R_s = 147.1344 X 10 8 m

Compton wavelength of Sun

= 2 π X R_{s-corona}

The speed of Sun c + v is present over its Compton wavelength.

 $\frac{2.0993 \times 10^{-7}}{2 \pi X \ 1.471344 \ X \ 10^{-10}} = 2.2667 \ X10^{-18} \ s^{-1}$ ⇒ H₀ =

agrees with experimental value of

 \Rightarrow H₀ = 2.5 X 10 - 18 s⁻¹ ± 15% found in

the year 2006 A.D.

Note: R_{s-corona} is the radius of the Sun, till which atmosphere exists. (refer : Annexure - I : Age of Sun since its birth)

3.Strong Nuclear Force:

Suppose, the Confinement radius is R



Each, proton Comprises of three quarks Quark mass = $m_p / 3 = m_q$ $\mathbf{r}_{q} = (\mathbf{r}_{p} / 4) \ge 1.732$; $\mathbf{r}_{p} = \lambda_{p} / 2 \pi$; $\lambda_{p} = \text{ proton Compton wave length.}$ $\in_{\rm r} \cong 1$ for free space.

Then, the force of repulsion between two protons (6 quarks) is matched by the universal force of attraction as :

$$\frac{(6 \text{ m}_p/3)^2}{6} \frac{\text{c}^3}{\text{h}} = \frac{4 \pi}{3} \frac{\sqrt{r_p}}{\sqrt{4}} \times 1.732}{4 \pi} = \frac{e^2}{4 \pi} \frac{1}{e_0 \in r} \frac{1}{R^2}$$

$$R = \frac{36 \text{ x} \text{ m}_p^2 \text{ c}^3}{9 \text{ h}} \left(\frac{r_p}{4} \text{ x} 1.732}\right)^3 \frac{4 \pi}{e^2}$$

$$R = \frac{36 \text{ x} 1.672^2 \text{ x} 10^{-54} \text{ x} 27 \text{ x} 10^{24}}{9 \text{ x} 6.626 \text{ x} 10^{-34}} \frac{\left(1.3214}{8 \pi} \text{ x} 1.732\right)^3 \text{ x} 10^{-45} \text{ x} 4 \pi \text{ x} 8.854 \text{ x} 10^{-12}}{1.603^2 \text{ x} 10^{-38}}$$

= 1.4453 x 10 -15

which agrees with experimental result of 10^{-15} m (Approximately).

e²

4.Weak Nuclear Force :

Energy at speeds greater than the speed of light 'c', behaves like anti-matter. Within radioactive neutron the energy trapped within the neutron behaves like anti-matter and splits neutron into proton and electron. The resultant repulsion between matter and antimatter separates proton and electron.





Where r is the distance of separation between the two nearly concentric spheres of proton (radius r_p) and electron (radius r_e). Force is inversely proportional to the square of distance r i.e., r^2 . Energy is work done; a product of force and distance (r). Therefore, energy is inversely proportional to the distance r i.e.

 $\frac{e^2}{4\pi\epsilon_o r} \quad \frac{r_p}{r_e} \quad \text{is the energy in the creation of electron from a neutron}$

(against the attraction of proton on electron)and r is the distance of t nuclear force by which proton and electron separate. This is equal to

the repulsion between matter and anti-matter = $\frac{m_p^2 c^3}{h}$. r Therefore, $\frac{m_p^2 c^2}{h}r = \frac{e^2}{4\pi \epsilon_o r} \frac{r_p}{r_e}$; $\epsilon_r = 1$

$$r = \frac{e^2}{4 \pi \epsilon_o r} \frac{h}{m_p^2 c^3} \frac{r_p}{r_e} \frac{r_p}{r_e} = \frac{1.321 \times 10^{-15} X}{2.426 \times 10^{-12} X} \frac{1}{2 \pi}$$

$$r^2 = 1.1023 \times 10^{-36}$$

 $r = 1.0499 \times 10^{-18}$ which agrees with the experimental value of 10^{-18} m 5.Universal Gas Constant (R) :

Take one mole of Hydrogen @ 273° K. At this temperature Hydrogen is in molecular state. Therefore, mean free path of hydrogen is

$$r_{\rm H} = \frac{28.966}{1.00792 \text{ x } 2} \cdot \frac{6.6317 \text{ x } 10^{-8} \text{ x } 273}{288.15} = 0.90277 \text{ x } 10^{-6} \text{ m}$$

V =
$$\frac{4\pi}{3}$$
 r_{H³}. N_A = 18.56725 x 10 ⁵

Where N_A is Avogadro constant. A force of $\frac{m^2 c^3}{h}$ is present at the

surface of the object with mass m and this force is present over a Compton wave length of λ and a sphere of radius ($\lambda/2\pi$). Assume R_o is the radius of one mole hydrogen sphere; and λ is the Compton wavelength of Hydrogen Molecule.

. .

Force 'F' present at R₀ is given by :

$$F = \frac{1}{2} \quad \frac{m^2 c^3}{h} \quad \frac{4 \pi R_0^2}{4 \pi r_H^2} \quad \frac{4 \pi (\frac{\lambda}{2 \pi})^2}{4 \pi r_H^2}$$

We know that pressure P is Force per unit area.

$$P = \frac{1}{2} \frac{m^2 c^3}{h} \frac{4 \pi R_0^2}{4 \pi r_H^2} \frac{4 \pi (2 \pi)^2}{4 \pi r_H^2} \frac{1}{4 \pi R_0^2}$$

Also, PV = nRT

$$\Rightarrow R = \frac{1}{2} \quad \frac{m^2 c^3}{h} \cdot \frac{R_0^2}{r_H^2} \cdot \frac{\lambda^2}{4\pi^2 r_H^2} \cdot \frac{1}{4\pi R_0^2} \cdot \frac{V}{nT}$$
$$= \frac{1}{2} \cdot \frac{4m_p^2 c^3}{h} \cdot \frac{\lambda_p^2}{4\pi^2 r_H^4} \cdot \frac{1}{4\pi} \cdot \frac{V}{nT} \quad ; n = 1$$

$$= \frac{1}{2} \frac{1.6726^{2} \times 10^{-54} \times 27 \times 10^{24}}{6.6262 \times 10^{-34}} X \frac{1.3214^{2} \times 10^{-30}}{\pi^{2} \times 0.90277^{4} \times 10^{-24}} X \frac{18.56725 \times 10^{54}}{4 \pi \times 273 \times 10^{54}}$$

= 8.21179 which agrees with experimental value of 8.3143

6.Free Space Impedance (Z₀) :

A wave of wavelength λ behaves like a spherical object of radius ($\lambda/2\pi$). e_l is the charge of light when seen as a particle.

$$\mathsf{E} = \mathrm{I}_{\mathsf{p}^2} \quad \mathsf{R}_0 \, \mathsf{t}_{\ell} = \frac{\mathsf{hc}}{\lambda} = \frac{\mathsf{e}^2_{\ell}}{4\pi_{\cdot} \epsilon_0} \xrightarrow{\lambda}{\frac{2}{2\pi}} \Rightarrow \mathsf{e}_{\ell}^2 = 2\epsilon_0. \, \mathsf{hc} \, \underbrace{\qquad} (1)$$

But, we know $I_p^2 = \frac{e_{\ell}^2}{t_{\ell}^2}$; where e_{ℓ} is the charge of light when seen as a

particle and t t is the time inertia of light as a wave particle; that is when seen as a charge particle.

Therefore,

$$E = I_{p^{2}} \cdot R_{0} t_{\ell} = \frac{e_{\ell}^{2}}{t_{\ell}^{2}} \cdot R_{0} t_{\ell} = \frac{e_{\ell}^{2}}{t_{\ell}} \cdot R_{0} \quad (2)$$

But as per Planck's hypothesis, light of wavelength λ and time inertia of t t behaves like an energy packet of energy h/t t. From ----- 2, we have

$$\Rightarrow \frac{h}{t_{i}} = \frac{e^{2} t_{i}}{t_{i}} \cdot R_{0}$$

$$R_{0} = \frac{h}{e^{2}t} = \frac{h}{2\epsilon_{0} ch} = \frac{1}{2\epsilon_{0} c} \quad \text{from} \qquad (1)$$

$$R_{0} \text{ due to resistance is } R_{0} = \frac{1}{2\epsilon_{0} c}$$

I₀ due to inductance is I₀ =
$$\frac{\mu_0 c}{2}$$

So, Z₀ due to impedance is = R₀ + I₀ = $\frac{1}{2} \left(\frac{1}{\epsilon_0 c} + \mu_0 c\right)$

As per Maxwell's equation $\mu_o \in 0 = \frac{1}{c^2}$

$$\stackrel{\Rightarrow}{\Rightarrow} Z_0 = \frac{1}{2} \left(\frac{1}{\epsilon_0 c} + \mu_0 c \right) \frac{1}{2} \left(\frac{1}{\epsilon_0 c} + \frac{1}{\epsilon_0 c} \right) = \frac{1}{\epsilon_0 c}$$
$$Z_0 = \frac{1}{\epsilon_0 c} = \frac{1}{\epsilon_0 c}$$

which agrees with experimental value of $Z_o = 376.7304$ Alternatively, since $\mu_o \in_o = (1/c^2)$; $Z_o = \mu_o c$.

7. Speed of Rotation of the Sun (ω_s) :

 R_s = radius of sun, ω_s = speed of rotation of sun,

v_s = speed of sun in absolute sense, M_u = starting mass of sun

 $R_s\omega_s = v_s; \ell_s = \frac{h}{M_s R_s \omega_s}$; $\ell_s = \frac{h}{M_u c}$ as per my theory

$$\Rightarrow \frac{h}{M_{u}.c} = \frac{h}{M_{s}.R_{s}.\omega_{s}} \Rightarrow \omega_{s} = \frac{M_{u}}{M_{s}.} \frac{c}{R_{s}}$$

since momentum is conserved.

We know that
$$M_u$$
 for the Sun = 7.441 x 10²²
Hence, $\omega_s = 7.441 \times 10^{22} \times 3.2 \times 10^8$ = 1.61172 X 10⁻⁸.
1.99 X 10³⁰ X 6.96 X 10⁸

Observed rotation is 11 years; actual rotation is 12 years for the sun spots

$$\Rightarrow \omega_{s} = \frac{2\pi}{T_{s}} = \frac{2\pi}{12 \times 365 \times 24 \times 3600} = 1.66099 \times 10^{-8}.$$

Now, both (A) and (B) are the same.

Note :

The space - mass vibration within the particle (Sun) released from the central object is 'c', and rotates at the speed of 'c'.

M_u = initial mass of the sun as released from the central object.

8.Newton's Law :



We know that as per my theory; $E = \frac{1}{2} m_1 v^2 = \sqrt{Fch}$

 But, according to my theory (hc/ ℓ^2) = F. A force F acting over a distance ℓ is equal to a force / energy wave of Compton wave length ℓ .

Hence, Fch = $m_1^2 a^2$. (hc/F) \Rightarrow F² = $m_1^2 a^2$ \Rightarrow F = m_1 a. Since at lower speeds $m_1 \approx m$.

we have F = ma

 ℓ , m1, v, F are all applicable to force F. A force F is equivalent to a Compton wave length of ' ℓ ' over which it is applicable. ' ℓ ' is here the distance over which the particle reaches speed 'v' from zero.

9.CBMR – Cosmic Background Microwave Radiation :

Assume CBMR is a radiation given out by the Earth.

 $m_{10} = rest mass of earth.$

- $\ell_1 = \text{wave length of the CBMR}$
- v_1 = Speed of the earth around the Sun, which is going at the speed 'c + v'
 - in absolute sense.
- ℓ_1 = wavelength of visible light.

 $m_o = mass of light when treated as a particle.$

By relativity ;
$$\ell_1 = \ell_{10} \cdot \sqrt{1 - \frac{(c+v_1)^2}{c^2}} = \sqrt{\frac{2v_1}{c}} \ell_{10}$$

$$t_1 = t_{10} \cdot \sqrt{1 - \frac{(c+v_1)^2}{c^2}} = \sqrt{\frac{c}{2v_1}} \cdot t_{10}$$

$$\frac{\ell_1}{t_1} = \frac{2v_1}{c} \frac{\ell_{10}}{t_{10}} = 2v_1; \text{ because } \frac{\ell_{10}}{t_{10}} = c \text{ as per theory}$$

$$\gamma_1 = \frac{2v_1}{\ell_1} = \frac{2v_1}{\ell_\ell} \text{ (in the visible light range } \frac{\ell_{10}}{t_{10}} = c$$
and
$$\frac{\ell_1}{\ell_1} = \frac{\ell_\ell}{\ell_\ell}$$

$\gamma_1 = \frac{2 \times 2.9818 \times 10^{-4}}{404.7 \times 10^{-9}}$

is the peak frequency for the lowest wavelength of visible light i.e., violet light.

= 147.36 GHz which agrees with experimental result of 160.4 GHz.

Note : c is the speed of light only; not that of microwave radiation nor that of ultra-violet radiation. Actually $v_{(IR)} < c$

 $v_{(UV)} > c$

10.Age of the Sun (since its birth) :

Assumption : All celestial bodies jet out like a stream of particles from the central Black hole as particles; with the same starting mass and speed. u is the external starting speed . c is the space – mass vibration speed within the particle.

t₁

t₽

For all celestial bodies $M_i^2 v_i$ = constant.

In the case of Sun M_v^2 (c+v)= M_u^2 .u; where M_u =7.441x10²², M_v =1.99 x 10³⁰

$$u = \left[\frac{1.99 \times 10^{30}}{7.441 \times 10^{22}}\right]^2 \cdot c = 2.1456 \times 10^{23}$$

Time inertia of the primordial particle of Sun w.r.t. the central black hole

Is
$$t_u = \frac{h}{M_u c^2}$$
; one cycle time is $2t_u$. λ_u w.r.t. the surroundings space is $\frac{h}{M_u u}$

 $M_u c^2$;the rate of expansion is $v_{exp} = \frac{\lambda_u}{2 t_u} = \frac{c^2}{2 u}$ The sun expands to its present stage i.e., diameter of the Sun is total upto the edge of the solar

corona, in time

$$T_{tot} = \frac{2 X R_{sCorona} - \lambda_u}{v_{exp}} T_{tot} = \frac{2 X R_{sCorona} 2u}{c^2}; since \lambda_u \approx 0$$

 $= \frac{2 \times 21.14 \times 6.96 \times 10^{8} \times 2 \times 2.1456 \times 10^{23}}{9 \times 10^{16}} = 140.31 \times 10^{15}$

= 4.4491×10^9 years or 4.4491 billion years.

Which agrees with observed / calculated value of 4.5 billion years.

Note : Cycle time = $2 t_u$ is $t_u + t_u$ ie., the period of expansion + period of rest. The sun expands in jerks with total period of $2t_u$.

R _{Corona}: Is the radius from the center of the Sun till the edge of the sphere till which Sun's atmosphere is present; and after which the Sun's atmosphere is negligible and ceases to exist.

The primordial particle of Sun slows down to the speed of $c + v = c + 2.0993 \times 10^{-7}$ to become Sun.

DERIVATION OF R s-corona
R geo, corona =
$$4R \in (R \in \text{ is radius of earth})$$

g, geo, corona = $9.81 \times \frac{R \in ^2}{(4R \in)^2} = 0.613125$
Similarly R_s, corona = $\sqrt{\frac{274}{Rs}} = Rs = 21.14 R_s$

0.613125

PREDICTION - 2 : The celestial objects jet out like bubbles from the central black hole, at speeds greater than the speed of light ; with VOID inside them; which helps them to float through space. The void does not have space, time, matter and energy and is perfectly empty.

The Geocorona of the Earth is a distance of 4 R_E (R_E is the radius of Earth) from the center of the Earth., ie., 4 R_E is the space displaced by the Earth. This is equivalent to a space-mass of h

4R_Ec

By Archimedes Principle for floating objects this is the mass destroyed in creating the void for the Earth. Therefore, the Compton wave length of the void

$$\ell_{\rm V} = 2 \pi R_{\rm V} = (h/c) / (\frac{h}{4R_{\rm E}c}) = 4R_{\rm E}$$

Hence, R_V = radius of the void inside the Earth = $\frac{4R_{E.}}{2\pi} = \frac{2 \times 6371}{\pi}$

This implies that the Earth's solid portion has a thickness of $R_E - R_V = 6371 - 4054 = 2317$ Km only. Except the top layer of crust and hydrosphere most of the solid material of the Earth consists of densest elements like OSMIUM or PLATINUM or IRIDIUM.

VI. Annexure - II

1.Separation of Earth from Sun :

The planet Earth is getting separated away from the Sun due to release of energy by the Sun (which in turn releases space which pushes the Earth away from the Sun)

The total force released by the Sun as per my theory is :

$$F = \frac{1}{2} \cdot \frac{R_1^2}{r_1^2} \cdot \frac{m^2 c^3}{h}$$

Energy out pouring : $E = \sqrt{Fch} = \sqrt{\frac{1}{r_1}} \cdot \frac{R_1}{r_1} \cdot m c^2$

But, as per my theory this energy outpouring away from the sun releases space as given by

$$\ell = \frac{hc}{E} = \sqrt{2} \cdot \frac{r_1}{R_1} \cdot \frac{h}{mc}$$

This is the compton wave length of the space released :-

Therefore, the thickness of the space layer released is :

$$r_s = \frac{\ell}{\pi} = \frac{\sqrt{2}}{\pi} \cdot \frac{r_1}{R_1} \cdot \frac{h}{mc}$$

This increase in the space layer is felt at the solar corona $R_{S-corona}$ radially. Increase in space linearly along the plane of the Sun – Earth is (at the surface of Sun)

$$\mathbf{r}_{SE} = \frac{\sqrt{2}}{\pi} \cdot \frac{\mathbf{r}_1}{\mathbf{R}_1} \cdot \frac{\mathbf{h}}{\mathbf{mc}} \cdot \frac{\pi \mathbf{R}_1^2}{4\pi \mathbf{R}_1^2}$$

Now the space – volume is conserved in the same way as mass- energy is conserved.

Increase in space linearly along the plane of the Sun – Earth @ the surface of Earth

$$r_{\rm E} = \frac{\sqrt{2}}{4\pi} \qquad \frac{r_1}{R_1} \qquad \frac{h}{mc} \qquad \frac{\pi R_2^2}{4\pi R_2^2} \qquad \frac{4\pi R_s^2 \cdot corona}{4\pi R_2^2}$$

Where R_{s-corona} = 21.14 x R₁ = Radius of solar corona

R = Mean distance between the Sun and the Earth. The space is released at the least time period which is that of the time inertia of one

hydrogen atom on the Sun's surface
$$t_p = \frac{h}{mc^2}$$

$$v_{E} = \frac{r_{E}}{t_{p}} = \frac{\sqrt{2}}{16\pi} - \frac{r_{1}}{R_{1}} - \frac{R_{s}^{2}-corona}{R^{2}} - c$$

This is the speed of the drift of the planet Earth away from the Sun Substituting the values we get $v_E = 15.3318$ cm / yr which agrees with observed value of 15 cm / yr

2.Absolute Rest mass of Sun (M0) : M ($1 - (c-v)^2 / 2 c^2$) = M0

Note : c-v is the matter equivalent speed of the actual anti-matter Sun's speed c+v. Sun is anti-matter attracting the anti-matter planets, etc., in the solar system. Simplifying and taking the –ve component, we get M0 = M. ($-v^2/2c^2$). Here, we are taking the –ve component; because, Sun comes to absolute rest and starts going back towards the black hole at that point. Since,

 $v = 2.0993 \times 10^{-7}$, M0 works out to be = 0.487 kg. (Note : Any object which is faster than light is antimatter and slower than light is matter).

VII. Annexure - III

1.Derivation of elementary charge, e: Assumptions:

- 1. Charge energy is caused by rotation of the object; and electric charge energy is equal to the rotational energy.
- 2. The Earth is a hollow sphere of hollowness equal to a radius of $\frac{2R\epsilon}{\pi}$ where R ϵ is the radius of the Earth from the centre to the surface.

Suppose, the average mean free path of a molecule on the surface of Earth is equal to \mathcal{C} ; and the average molecular weight is me...Then. the

number of free nucleons with elementary charge 'e' = $\frac{4 \pi R \epsilon^2}{4 \pi \ell^2 m \epsilon^2}$; because m_{ϵ} . ℓ is the mean free path of a free nucleon. Now,

let us equate the charge energy on the surface of the Earth and the rotational energy of the Earth. Only, the surface charges contribute to the rotation of the Earth. The charges inside cancel out.

Where M_{ϵ} is the mass of Earth and T_{ϵ} is the period of rotation of Earth. Now, we shall derive m_{ϵ} , ℓ and estimate the value of 'e ' theoretically. R_{ϵ} , M_{ϵ} , T_{ϵ} are already known.

The Earth's surface consists of crust (with an area of 0.292 fraction of total area) and hydrosphere (with an area of 0.708 fraction of total area). The constituents

of crust are :	fraction			molecular weight		
Oxygen	-	0.4913	х	16	=	7.8608
Silicon	-	0.26	Х	28	=	7.28
Aluminium	-	0.0745	Х	26	=	1.937
Ferrous	-	0.042	Х	52	=	2.184
Calcium	-	0.0325	Х	40	=	1.3
Sodium	-	0.024	X	22	=	0.528
Potassium	-	0.235	Х	38	=	0.893
Magnesium	-	0.235	X	24	=	0.564
Hydrogen	-	0.01	Х	1	=	0.01
Others	-	0.187	Х	20	=	0.374
				m∈1:	Total :	22.9308

The average molecular weight of the crust is $m_{e_1} = 22.9308$ over area $a_1 = 0.292$ of total area.

Similarly, Hydrosphere:

		fraction		molecular weight		
Oxygen	-	0.8589	Х	16	=	13.7424
Hydrogen	-	0.1082	X	1	=	0.1082
Chlorine	-	0.019	Х	34	=	0.646
Sodium	-	0.0106	X	22	=	0.2332
Others	-	0.033	Х	20	=	0.66
				m∈₂:T	otal :	15.3898

The average molecular weight (m_{ϵ_2}) of Hydrosphere is 15.3898 over area 0.708 of the total area.

 $m_{e} = a_1 m_{e_1} + a_2 m_{e_2} = 17.592$ Moreover, $(a_1 . \ell . d_1) / (a_2 . \ell . d_2) = \frac{m_{\epsilon_1}}{m_{\epsilon_2}}$ d₂ = surface water density = 1025 $d_1 = \frac{22.9308}{15.3898} X \frac{0.708}{0.292} = 3703$ $a \cdot l \cdot d = a_1 \cdot l \cdot d_1 + a_2 \cdot l \cdot d_2$ The average surface density $d = a_1d_1 + a_2.d_2$ \Rightarrow d = 1806.97 ; and $\frac{4}{3} \pi \ell^3 = \frac{m \in x m_p}{d}$ m_p = proton (or nucleon) mass Now, $\frac{4}{3} \pi \ell^3 = \frac{17.592 \times 1.673 \times 10^{-27}}{1806.97}$ $\Rightarrow \ell = 1.5724 \times 10^{-10}$ From equation \overrightarrow{A} : $\frac{1}{4\pi\epsilon_{\circ}} \quad \frac{R\epsilon^{3} e^{2}}{m\epsilon^{2} \ell^{4}} = \frac{1}{2} \times 0.48263 \times M\epsilon R\epsilon^{2} \times \frac{4\pi^{2}}{T\epsilon^{2}}$ $\Rightarrow e^{2} = 8\pi^{3} \epsilon_{\circ} \quad \frac{M \epsilon m \epsilon^{2}}{R \epsilon} \quad x \quad \frac{\ell^{4}}{T \epsilon^{2}} \quad x \ 0.48263$ Substituting the values : €0 = 8.85 x 10⁻¹² R∈ = 6.371x 10⁶ T∈ = 2.393 x3.6 x10⁴ M∈ = 5.977 x 10²⁴ m∈ = 17.592 ℓ = 1.5724 x10⁻¹⁰ We get

e² = 2.5368603 x 10⁻³⁸

=> e = 1.592752 x10⁻¹⁹; which agrees with the experimental value of 1.602×10^{-19}

The slight discrepancy i.e., 0.925% is due to approximation in $m \in$ and ℓ . Hence, the assumptions are correct and valid.

PREDICTION – 3 :

In the Solar System, the ratio of the mass of Sun to the mass of Saturn is nearly same as the ratio of the mass of one neutron plus one proton to the mass of an electron. We can predict that the Solar System follows Deuterium atomic model with the Sun as the nucleus and Saturn as the electron. Moreover, we can also predict that Saturn is the only planet which has come out of Sun and all other planets of the Solar System are like sub-atomic particles of the Deuterium atomic model.

PREDICTION – 4 :

We have seen in PREDICTION -1 that the force of Sun on Earth is nearly 20,000 billion times less than the force of Earth on the Sun. We can predict that the Solar System is a whirlpool of space in which all the planets and the Sun are floating and the planets are kept in motion by the space in motion and the Sun happens to be at the centre and the Sun's hold on the planets is feeble; compared to the planets' force on the Sun. Moreover, we can also predict that the planets like Earth can become stars after it slows down to a speed of 'c' from its present speed of $c + v_1$

PREDICTION – 5 :

The central black hole is matter with a highest speed of 'c'; and all the protons in the universe rotate at nearly the speed of light 'c' in the direction of the central black hole; and all the electrons in the universe rotate in the opposite direction at nearly the speed 'c'.

PREDICTION – 6 :

A freely moving sphere in space will have a rotational motion also, if it has a linear motion, and the corresponding relationship between the rotational speed and the linear speed can be derived. PREDICTION -7:

The central body of the universe is rotating in one direction; and all the protons of the universe are rotating at nearly the speed of light 'c' in that direction; electrons in the opposite direction at nearly the speed of light 'c'. PREDICTION -8:

The elementary particles neutron, proton and electron are stable because the universe is vibrating at the speed of light 'c' along with the particles which also vibrate at the speed of light 'c'.

PREDICTION – 9 :

The least speed of any celestial body in absolute sense; outside the central body is 'c'; the highest speed within the central body is 'c'.

PREDICTION – 10 :

The celestial objects jet out like stream of particles from the central body. The central body and the celestial objects rotate in the same direction and the celestial objects go around the central body in the same direction. PREDICTION -11:

Positive and Negative electrical charges are because of rotation of protons and electrons at nearly the speed 'c' in opposite directions.

PREDICTION - 12:

In reflection, refraction and diffraction of light; light is attracted by the nucleus of protons and neutrons (which behave as matter) and repelled by electrons (which behave as anti-matter); because light behaves like matter particles.

PREDICTION – 13 :

The universe is a finite sphere with space, celestial objects, energy and expanding. It appears to be infinite and every point of the universe appears to be a centre ; because, of multiple reflections of light and energy by the surface (or boundary or edge which is actually expanding) back into the universe. PREDICTION - 14:

The universe is expanding into void and will fall back into the central black hole; because of all anti-matter getting exploded into matter or space which will then be attracted by the matter in the central black hole. PREDICTION -15:

The plane of the planetary orbits around the sun is inclined in the direction of movement of the solar system in Milky way galaxy and the planets are partly dragging the Sun in its motion around the galaxy; along with space.

This is so because; something has to energize the movement of sun against spatial friction. Space in motion also causes partly the movement of the solar system in the galaxy.

2.SNELL's Law :

The coefficient of refractive indices: Light behaves as matter waves; and is Refraction of light repelled by electrons in medium which behave as anti-matter; and attracted by medium 1 neutrons / protons which are matter $m_1 c_1$ which causes refraction. Suppose, medium 2 light has a mass m₁ and m₂; and speeds c1 and c2 in the two media. $m_2 c_2$ The horizontal component of the force of light from medium 1 to medium 2 does not change; as there is no force in this direction.

Therefore,

 $\frac{m_1^2 c_1^3}{h} \quad \sin i = \frac{m_2^2 c_2^3}{h} \quad \sin r \text{ as per my theory of universality.}$

 $\Rightarrow \frac{\sin i}{\sin r} = n = \frac{m_2^2 c_2^3}{m_1^2 c_1^3} = \frac{m_2^2 c_2^4}{m_1^2 c_1^4} = \frac{c_1}{c_2}$

Now energy is conserved \Rightarrow m₁ c₁² = m₂ c₂²

n = $\frac{\sin i}{\sin r}$ = $\frac{c_1}{c_2}$ = coefficient of refraction

Hence, Snell's law is derived as per theory.

$$M_1$$
, A_1 , R_1 , R_{11}

 M_2 , A_2 , R_2 , R_{22}



Take two bodies of mass M_1, M_2 ; radii R_1, R_2 ; mean free path of molecules r_1, r_2 molecular weight z_1, z_2 ; and having A_1 , A_2 moles of weight. Consider one mole of each with radii R_{11}, R_{22} .

As per my theory, the force due to one mole of M1 at a distance of

R is:
$$\frac{1}{2} = \frac{4\pi R_{11}^2}{4\pi r_1^2} = \frac{z_1 m^2 c^3}{h} = \frac{R_{22}^2}{R^2}$$
 on one mole of M₂

The force will act on one proton along the line joining the centers of mass. Hence, the force on one mole of M_2 along the line joining

centers of mass is : $\frac{1}{2} = \frac{z_1 R^2_{11}}{r_1^2} = \frac{m^2 c^3 R^2_{22}}{h R^2} = \frac{m_p}{z_2 N_a m}$ where

 N_a is Avogadro constant and $N_a.m = 1$.

The force due to A_1 moles of M_1 on A_2 moles of M_2 along or parallel to the lines joining the centers of mass on the nearest protons would be;

$$F_{12} = \frac{1}{2} \quad \frac{R^2_{11}}{r_1^2} \quad \frac{Z_1 A_1 m^2 c^3}{h} \quad \frac{R^2_{22}}{r_2^2} \quad \frac{r_2^2}{R^2} \quad \frac{A_2 m_p}{Z_2 1}$$

we know that $r_2 = z_2 \cdot (2 \lambda_p)$ { mean free path of proton= $2 \lambda_p$ } Also, A₁ $z_1 m = \frac{M_1}{N_a}$; and A₂ $z_2 m = \frac{M_2}{N_a}$ Therefore

Therefore,

$$F_{12} = \frac{1}{2} \quad \frac{R^2_{11}}{r_1^2} \quad \frac{M_1 M_2}{N_a^2} \quad \frac{c^3}{h} \quad \frac{R^2_{22}}{r_2^2 R^2} \quad \frac{z_2 4\lambda_p^2}{z_2} \quad . \quad m_p \bigodot A$$

Moreover, for one mole of a body $\frac{\frac{Z_1 \text{ m } N_a}{4 \pi R_{11}^3}}{3} = \frac{\frac{Z_1 \text{ m}}{4 \pi r_1^3}}{\frac{4 \pi r_1^3}{3}}$

$$\Rightarrow \frac{R^{3}_{11}}{r_{1}^{3}} = N_{a} \Rightarrow \frac{R^{3}_{22}}{r_{2}^{3}} = N_{a} B$$

from A and B, we have

$$F_{12} = \frac{1}{2} \cdot \frac{N_a^{2/3} \cdot N_a^{2/3}}{N_a^2} \cdot 4 \cdot \frac{M_1 M_2}{R^2} \cdot \frac{C^3 \cdot \lambda_p^2 \cdot m_p}{h}$$

Similarly, the force of M_2 on M_1 will be an equal amount. The total force of gravitation between two bodies of mass M_1 and M_2 along the line joining the centers of mass at a distance R is :

$$F = F_{21} + F_{12} = -\frac{4c^3 \cdot \lambda_p^2 \cdot m_p}{N_a^{2/3} \cdot h} - \frac{M_1 M_2}{R^2}$$

Hence, we can conclude that

$$= \frac{4c^{3} \cdot \lambda_{p}^{2} \cdot m_{p}}{N_{a}^{2/3} h}$$

works out to be $G = 6.66889 \times 10^{-11}$ and agrees with experimental

value of G = 6.67384 x 10-11

Hence Newton's law of gravitation for large distances is derived as per my theory of universality

G

PREDICTION – 16 :

4.The surface speed of a charged fundamental particle : In the case of charged fundamental particles like, proton and electron charge energy is equal to the mass energy as per observation and also equal to the rotational energy.

That is
$$m_0 c^2 = \frac{1}{2} + \frac{2}{5} + mr^2 + w^2 = \frac{1}{2} + mr^2 + \frac{2}{5} + \frac{1}{5} + mr^2$$

where v is the surface speed of the particle of rotation

$$\Rightarrow \frac{1}{5} \frac{m_0}{\sqrt{\frac{1-v^2}{c^2}}} \quad v^2 = m_0 c^2$$

$$\Rightarrow v^4 + 25 c^2 v^2 - 25 c^4 = 0$$

$$\Rightarrow v^2 = (-25 \pm 26.926) c^2$$

$$\Rightarrow v = 0.98133 . c , or \sqrt{-25.963} . c$$

That is to say the charged positive matter particle i.e., proton, moves with a surface speed of rotation 0.98133c in the direction of the central black hole which gives it the positive charge; and since, the speed is less than 'c' it is matter particle.

The charged negative anti-matter particle, i.e, electron, moves with a surface speed of rotation of -25.963 c in the direction opposite that of the central black hole which gives it the negative charge; and since, the speed is more than 'c' it is anti-matter particle.

5.Surface density of central black hole (\rhoBH) : Compton wave length of Sun = 2π . R_{sc} where R_{sc} is the solar corona radius; and Sun is anti-matter The central black hole keeps a matter equivalent mass of every anti-matter particle / object jetting out of it ; whose mass and size keep changing as per the antimatter object which came out. However, the surface density of the central black hole remains constant.

The mass of the matter particle equivalent of this Compton wave length of

Sun (on the central black hole) = $\frac{h}{2\pi R_{sc}}$ and the Compton wave length of

the matter particle equivalent of the Sun (on the central black hole is $\frac{h}{M_s c}$

Therefore, the surface density of the central black hole is

$$\rho BH = \left[\frac{h}{2\pi . R_{sc}c}\right] / \frac{4\pi .}{3} \qquad \left[\frac{h}{2\pi . M_{s}c}\right]^{3}$$
$$\rho BH = 3\pi . \frac{M_{s}^{3} . c^{2}}{R_{sc} h^{2}}$$

 $\rho BH = 3\pi$. $R_{sc}h^2$ Under normal circumstances, the surface density of the central black hole is constant in equilibrium with the universe. Hence, $M_s^3 \alpha R_{sc}$.

That is, the cube of mass of a star is directly proportional to the star's corona radius.

VIII. Annexure – IV

The absolute speed of Earth (U):

Suppose, the relative speed of rotation of Earth around sun is V_1 and the relative speed of Earth-plane parallel to the direction of motion of Sun is v. The Sun moves perpendicular to the plane connecting the Sun and the Earth rotationary plane; otherwise there will be collision between Sun and Earth .



The absolute speed of Earth along z- axis is :

$$U = \frac{V + V_1 \sqrt{1 - \frac{\nu^2}{c^2}}}{V V_1 \sqrt{1 - \frac{\nu^2}{c^2}}} + \frac{V + V_1 \sqrt{1 - \frac{\nu^2}{c^2}}}{1 + \frac{c^2}{c^2}}$$

Now, we know that $v_{-}=0$; because the plane of rotation of Earth around the Sun and the Sun are at rest : and it is the proper frame. Therefore,

$$U = \frac{V + V_1}{1 + \frac{V V_1}{c^2}}$$

Since V is approximately = c (because the Sun's mass is huge as a star compared to other celestial bodies like planets and this is possible only if V is approximately = c)

$$U = \frac{V + V_1}{1 + \frac{V_1}{c}}$$

Now, $V_1 \ll c$. => U = V + V_1 as taken in my theory in New Discovery.

DARK ENERGY:

Assumptions :

- 1. The universe vibrates at the speed of light to keep the fundamental particles stable (as stated in PREDICTION -8).
- 2. The space filling the galactic distances is equivalent to dark energy due to this vibration

Proof :

Energy due to this vibration is a lowest value of $E_{\ell} = \frac{hc}{\ell} = \frac{hc}{\lambda_{\ell,max}}$

= $2.56135 \times 10^{-19} \text{ J}$ (as per my theory).

Where $\lambda_{t,max}$ is the highest visible light wave length. Hence this is the lowest energy density. $\lambda_{t,max} = 775$ nm.

The energy due to this energy within pluto's orbit of solar system is

Ede = $\frac{\pi \text{ ab.}}{\pi (\lambda_{t,\max}/2\pi)^2} \cdot E_t = \frac{4\pi^2 \text{ ab. } E_t}{\lambda_{t,\max}}$; where a and b are the

aphelion and perihelion of Pluto's orbit

DARK ENERGY WITHIN PLUTO'S orbit of solar system is at least equal to an amount :

= Ede =
$$\frac{4\pi^2 \times 7.311 \times 4.437 \times 10^{24}}{7.75^2 \times 10^{-14}}$$
 x 2.56135 X10⁻¹⁹ = 5.46564 x 10²⁰ J

This implies := Ede = 6.08136 TONNES ; which agrees with the observed value of the total dark energy within Pluto's orbit in solar system equal to 6 Tons. Hence, my theory is right., along with the above assumptions.

IX. Annexure – V

1. Derivation of Electron / Proton charge :

Electron / Proton is like sun model. Electron vibrates in 3 dimensions.

- a). classical radius of electron = rc
- b) inertial radius = resonant wavelength = $2\pi \lambda$ = $2\pi r_c$
- r_{e}
- c) electron is a hollow sphere of hollowness

radius $\frac{2}{\pi}$ r_c. [Every object in the universe

is a hollow sphere of radius = $\frac{2}{\pi}$ r_c]

d) gravitational radius of electron = 21.14 X 2π X r_c

Hence, we have the following relation by equating charge energy to rotational energy of electron : (Note, it is a assumed that charge of electron / proton is due to their rotation)

$$\frac{e^2}{4\pi \in_0. r_c} = \frac{1}{2} \cdot \frac{2}{5} \cdot \frac{(\pi^5 - 32)}{\pi^2 (\pi^3 - 8)} \times m_e X (2\pi \times 21.14 r_c)^2 \times [\frac{4\pi}{h/m_e c^2}]^2 = m_e c^2$$

(Note: for the angular speed $\frac{4\pi}{t}$ was taken; because electron as a fireball moves internally in all the 4π radians; only the outer sphere spins 2π radians. Eliminating r_c ; we get

 $e^2 = \sqrt{\frac{1}{2}} \quad \chi \sqrt{\frac{1}{0.48263}} \quad \frac{\epsilon_0 ch}{\pi (21.14)} \quad \Rightarrow e = 1.6412 \text{ X } 10^{-19} \text{ c}$

Which agrees with experimental value of e = 1.602 X 10⁻¹⁹ c

Compton wavelength of electron :

If we take $r_c = 2.8179 \text{ X} 10^{-15} \text{ m}$; we have

Compton wavelength = 2π X gravitational radius = 2π X (21.14 X 2π r_c) = 2π (21.14 X 2π X 2.8179 X 10⁻¹⁵) = 2.3536 x10⁻¹² m

Which agrees with observed value 2.42631 x 10⁻¹² m

Note :- An exactly similar deviation can be done for proton.

2. Percentage of Dark energy, Dark matter and ordinary mass in solar system upto Pluto orbit :

- a) D E = Dark energy = spatial vibration energy upto Pluto planet in
 - Solar system = 6.08136 tons as per my theory.
- b) D M = Dark matter (the matter equivalent of the energy outpouring
- from sun) upto Pluto orbit in solar system = 2.2689 tons.

(derived below)

c) O M = Ordinary mass upto Pluto orbit in solar system = 0.092 tons.

(i.e., the rest mass of sun, planets, moons to the planets, asteroids

(one planet broken into pieces) = $(1+9+178+1) \times 0.487 \text{ kg}$

= 189 X 0.487 kg = 0.092 tons. Note : The absolute rest mass

of sun is already derived to be 0.487~kg (in Annexure – II) and the same applies to other celestial objects in the solar system.

Dark Matter : we know as per my theory, the energy released by sun in unit time is :- $\frac{1}{\sqrt{2}} \times \frac{R_1}{r_c} \times \frac{m^2c^4}{h}$

Dark Matter ; which is the matter equivalent of the energy out pouring upto Pluto orbit would be :

 $\sqrt{\frac{1}{2}} \times \frac{R_1}{r_1} \times \frac{m^2 c^4}{h c^2} \times T$ pluto where T pluto is the time for energy to reach Pluto from Sun.

The fraction of Dark matter present upto Pluto orbit as compared to the total dark matter released upto the midpoint between Sun and the nearest star proxima centauri is:

Mdm: =
$$\sqrt{\frac{1}{2}} \times \frac{R_1}{r_1} \times \frac{m^2 c^4}{h c^2} \times T_{Pluto} \times \frac{(T_{pluto} \times c)^3}{(T \text{ mpc x } c)^3}$$

We know T pluto = 19680 seconds, T mpc = 2.12 years

Substituting, we get Mdm = 2.2689 Tonnes

That is upto Pluto orbit .	D.E. = 6.08136 tons i.e., 72.03 %
	D.M. = 2.26890 tons i.e., 26.87 %
	O.M. = 0.092 tons i.e., 1.10 %

These percentages agree with observed / predicted Percentages of D. E., D. M, & O M.

Hence, my theory explains the D. E., D. M & O. M.

3. The time sun will last before it explodes into supernova: As per my theory, the surface density of central black hole is

$$\mathcal{L}_{BH} = 3\pi \frac{M_s^3 c^2}{R_{sc} \cdot 4^2} \implies M_s^3 \propto R_{sc}$$
$$\implies M_s^3 = k R_{sc}$$
$$\implies 3M_s^2 \frac{dM_s}{dt} = k \frac{dR_{sc}}{dt}$$

We know, $\frac{dR_{sc}}{dt} = v_{exp} = \frac{c^2}{2u}$ where u is the

speed of the object jetting out of the black hole.

$$\Rightarrow \frac{dM_{s}}{dt} = \frac{M_{s}}{3.R_{sc}} \cdot \frac{dR_{sc}}{dt}$$
$$= \frac{1.989 \times 10^{30} \times 9 \times 10^{16}}{3 \times 21.14 \times 6.96 \times 10^{8} \times 2 \times 2.1456 \times 10^{23}}$$
$$= 9.45 \text{ Billion Tons /s}$$

Actually, the Sun's mass decrease due to combustion = 4.52 million Tons/s. Therefore, the net increase in Sun's mass is nearly = 9.45 Billion Tons / s. Chandrashekhar limit of mass for a star = 1.4 M_{s} before it explodes and becomes supernova. Applying the above limit, we get

time sun will last = $\frac{0.4 \times 1.989 \times 10^{30}}{9.45 \times 10^{12}}$ = 8.42 X 10¹⁶ s

Total time = 2.67 Billion years.

Hence, the sun will last 2.67 Billion years from now before it explodes into supernova as per the above calculation. After exploding as supernova, the Sun will become a black hole and fall back into CUBH (Central Universal Black Hole).

4. The actual radius of the universe :

Suppose, the universe is finite with a definite boundary and :

. ℓ_{BH} = density of central universal black hole .

 $.M_{BH} = Mass$ of central universal black hole .

 R_u = Actual radius of the finite universe with boundary.

 M_u = Mass of the universe other than the central universal BH.

 ℓ_u = density of the universe excluding the central universal BH Then we have:

$$\frac{\ell_{BH}}{\ell_{u}} = \frac{M_{BH}}{\frac{4\pi}{3}} R^{3}_{BH} X \frac{\frac{4\pi}{3} \left(\frac{h}{cM_{u}}\right)^{3}}{\left(\frac{h}{D}\right) Sinc}$$

 $\overline{R_u}$ Since, the universe other than the BH in **toto** behaves like anti-matter, we have to take matter equivalents.

For the universe to be in balance ; $M_u = M_{BH}$

$$\Rightarrow \frac{\ell_{BH}}{\ell_{u}} = \frac{1}{M^{2}_{BH}} \cdot \frac{R_{u}}{R^{3}_{BH}} \cdot \frac{h^{2}}{c^{2}}$$
$$\Rightarrow \frac{\ell^{3}}{\ell_{u}} = \frac{9}{16\pi^{2}} \cdot \frac{R_{u}}{R^{9}_{BH}} \cdot \frac{h^{2}}{c^{2}} - (1)$$

The force of gravitation at the surface of the BH or the universe :

$$\frac{h}{cR_{u}} \quad \frac{GM_{BH}}{R^{2}_{BH}} = \frac{M^{2}_{BH}c^{3}}{h} \Rightarrow \frac{h}{cR_{u}} \cdot \frac{G}{R^{2}_{BH}} = \frac{M_{BH}c^{3}}{h}$$

$$\Rightarrow \frac{h}{cR_{u}} \quad G = \frac{4\pi}{3} \qquad R^{5}_{BH}\frac{c^{3}}{h} \qquad \ell_{BH} = 2$$

Substituting R_u from 1 above into equation 2; we get

We know that : $\ell_{BH} = 1.037 \times 10^{165} \text{ kg} / \text{m}^3$ $\ell_u = 3 \times 10^{-27} \text{ kg} / \text{m}^3$ Substituting in 3 above, we get. $R_{BH} = 9.81 \times 10^{-64} \text{ m}$ $\Rightarrow R_u \text{ from } (1) = 0.1324 \times 10^{40} \text{ m}$

We can conclude that:

- 1. The size of the actual universe is nearly 140 Billion Trillion light years radius
- 2. The size of the central universal black hole is $9.81 \times 10^{-64} \text{ m}$
- 3. The mass of the central universal black hole is $1.2 \times 10^{-23} \text{ kg}$
- 4. The density of the central universal black hole is $1.037 \times 10^{165} \text{ kg} / \text{m}^3$
- 5.The density of the universe excluding the black hole at the centre is 3 X 10^{-27} kg / m³

X. Annexure - VI

1. The reason why electron does not lose energy in a circular orbit inside an atom is as follows .

When an electron travels in a straight line in vacuum in outer space where there are no fields or forces; it will come to a stop due to back emf of its self-induction. However, when electron travels in a circular orbit inside an atom, almost at the speed of light, it comes back to itself almost instantly and the back emf propels it, making up for the loss of speed or energy. Hence, no energy loss.

PROOF:

The energy stored in electron as inductor energy:

$$=\frac{1}{2} L I^{2} = \frac{1}{2} \left[\frac{\mu_{0}R_{e}}{2} \right] \left[\frac{ev}{2\pi R_{e}} \right]^{2} = \frac{\mu_{0}}{16\pi^{2}} \frac{e^{2}v^{2}}{R_{e}} - A$$

The energy dissipated due to back emf

When electron travels a distance of $2\pi Re$ in a straight time, There is a net loss of energy given by, $-\frac{1}{2}I^2 + \mathcal{E} \cdot e = \frac{\mu_0}{16\pi^2} - \frac{e^2v^2}{R_e}$ from equations A and B. Hence, it stops.

However, when electron travels in a circle ,after half circle, the loss in energy = $\frac{1}{2} \mathcal{E} \cdot e = \frac{\mu_o}{16\pi^2} - \frac{e^2v^2}{R_e}$, is equal to energy stored in electron inductor.

Since, back emf propels electron, the electron inductor energy supplies equal amount of energy for electron to complete, the other half of circle. Energy loss during one half circle is equal to the energy gained during that half circle due to the energy stored in electron as an inductor, Hence, no energy loss no energy gain.

2. Derivation of g-factor of electron :

Suppose, electron is a hollow sphere of hollow radius. $\frac{2.1435}{\pi}$ r_c, where r_c is the classical radius.

In my theory, I have already derived correct values of electronic charge assuming electron to be a hollow sphere of radius of hollowness $\frac{2}{\pi}$ r_c. But, the correct hollowness radius is $\frac{2.1435}{\pi}$ r_c. So, $\mu = g \frac{-e}{2m_e}$. L = magnetic dipole moment of an electron. Where, L= angular momentum = I ω . For a sphere of radii r₁ (internal) and r₂ (external), I = $\frac{2}{5}$ M $\begin{bmatrix} r_2^5 - r_1^5 \\ r_2^3 - r_1^3 \end{bmatrix} => g = \begin{bmatrix} \pi^3 - (2.1435)^3 \\ \pi^5 - (2.1435)^5 \end{bmatrix} (5\pi^2/2) = 2.0023716677$

agrees with the experimental value = 2.00231930436182

3. Negative time : If you take the flow of time from the surface of Central Universal Black Hole (CUBH) away in the universe as positive, then the flow of time into CUBH is negative.

4. Life span of electron :

In my theory, I have already stated that solar system is like a Deuterium model with Saturn as electron and Sun as proton and neutron.

Time inertia of electron at speed "c" = $\frac{h}{m_e.c^2}$ Time inertia of Saturn at speed "v": $\Delta t = \sqrt{\frac{\Delta t_0}{1 - v^2/c^2}} = \sqrt{\frac{1}{1 - v^2/c^2}} \left[\frac{h}{m_e.c^2}\right]$

But...
$$\frac{1}{\sqrt{1-v^2/c^2}} = \frac{M}{m_e} = \frac{Mass of Saturn}{Mass of electron}$$

So, life span of electron, which is one of the quantum pair of entangled elements of proton and electron coming out of neutron, till it becomes Saturn

$$= \frac{M \text{ saturn}}{m_e} \qquad X \quad \frac{h}{m_e c^2} = \frac{5.683 \text{ X } 10^{26}}{9.1 \text{ X } 10^{-31}} \text{ X } \frac{6.626 \text{ X } 10^{-34}}{9.1 \text{ X } 10^{-31} \text{ X } 9 \text{ X } 10^{16}}$$

0.0505 X 10 38 s = 1.60134 X 1029 years.

The electron stays as Saturn for only a few billion years.

Similarly, life span of proton = $\frac{(Mass of sun)/2}{Mass of electron} \times X$ time inertia of electron

$$= \frac{1.989 \times 10^{30}}{2X9.1X10^{-31}} \times \frac{6.626 \times 10^{-34}}{9.1X10^{-31} \times 9 \times 10^{16}} = 2.804 \times 10^{-32} \text{ years}$$

The life span of electron = 1.60134 X 10²⁹ years

agrees with the estimated value of at least 6 X 10 28 years.

The life span of proton = 2.804×10^{32} years agrees with the proton decay life span of half-life of about 10^{32} years.

5. Age of the observable universe :

The universe other then the Central Universal Black Hole (CUBH) has an average velocity "c" for all the celestial objects in it.

The time inertia of the particle jetting out of CUBH:

Suppose, a particle of mass m_u and initial speed u comes out of CUBH. It slows down to a speed of "c" the velocity of light and becomes an electron.

The time inertia till the particle becomes electron = $\frac{(h/m_u.c^2)}{(h/m_u.u^2)} \cdot \frac{h}{m_ec^2} = \frac{u^2}{c^2} \cdot \frac{h}{m_ec^2}$

Suppose, the total mass of the universe is M_u and number of stars =10²⁴. As most of the stars are binary, and also, a star system like solar system is binary, with sun as one star and a planet like Jupiter on the verge of becoming star. Hence, the number of star-like objects = 2 X 10²⁴.

The primordial particle which jets out of CUBH becomes electron and then a star, and then a matter particle (black hole) and then falls back into CUBH. So, maximum average

mass of a star – like object since its journey out of CUBH into star = $\frac{M_u}{2 \times 10^{-24}}$, where M_u = mass of the observable universe.

Therefore,

Time span or age of observable universe, T= time of the oldest star

 $T= \ \frac{M_u}{2 \ X \ 10^{\ 24} \ X \ m_u} \ X \ \frac{u^2}{c^2} \ X \frac{h}{m_e c^2}$

 \Rightarrow T = 4.4348 X 10 ¹⁷ s = 14.05 Billion years. agrees with estimated value of T = 13.8 Billion years.

Values used are :

$$\begin{split} M_u &= 1.59486 \ X \ 10^{55} \ \text{kg} \\ m_u &= 7.441 \ X \ 10^{22} \ \text{kg.} \ (\text{ as per my theory}) \\ u &= 2.1456 \ X \ 10^{23} \ \text{m/s} \ (\text{as per my theory}) \\ m_e &= 9.1 \ X \ 10^{-31} \ \text{kg} \\ c &= 3 \ X \ 10^{8} \ \text{m/s.} \\ h &= 6.626 \ X \ 10^{-34} \ . \ J \ \text{s}^{-1} \end{split}$$

XI. Annexure - VII

1. Quantum Gravitational constant (G_A) :

Consider Hydrogen atom. The force due to proton on the space

surrounding it is = $\frac{m_p^2 c^3}{h}$, half of this force is turned inwards, the other

half appears as tension on the space, which is gravity. That is, $\frac{1}{2} \frac{m_p^2 c^3}{b}$

Now, the force experienced by electron in the orbit is given by

$$\frac{1}{2} \frac{m_p^2 c^3}{h} \cdot \frac{\pi V_i^2}{4\pi V_e^2}$$
 where :
v_i = inertial radius of electron = $2\pi v_c$ (v_c = classical radius of electron)

 v_e = orbital radius of electron.

This is the gravitational force experienced by electron in the orbit around proton in Hydrogen atom.

Hence,
$$G_A$$
. $\frac{m_p m_e}{V_e^2} = \frac{1}{2} \cdot \frac{mp^2 c^3}{h} \cdot \frac{\pi V_i^2}{4\pi V_e^2}$
 $\Rightarrow G_A = \frac{1}{2} \cdot \frac{m_p \cdot c^3 \cdot V_i^2}{h \cdot m_e \cdot 4}$, where $m_p = 1.673 \times 10^{-27}$
 $c = 3 \times 10^8$

 $v_i = 2.8179 \times 10^{-15} \times 2\pi$

 $\Rightarrow~$ GA = 2.933844 X 10 33 $\,$ which agrees with observed value of $\Rightarrow~$ GA = 2.9772774 X 10 33

2. CMBR:

As per my theory, CMBR frequency = $\gamma_1 = \frac{2v_1}{c} + \frac{c}{\ell_l} = \frac{2v_1}{\ell_l}$

Where l_l is the wavelength of violet and v_1 is the relative speed of the Earth w.r.t. the Sun's speed which is nearly "c". That is the absolute speed of Earth is $c + v_1$. Now, suppose, the absolute speed of Sun or any planet is $c + v_i$, Then, CMBR from Sun or any planet as observed by an observer on Earth , due to relativistic doppler effect :

$$(\gamma_1)$$
 Sun / planet = $\frac{2 v_i}{\ell_l}$ X $\frac{c - c - v_1}{c - c - v_i}$ = $\frac{2 v_1}{\ell_l}$

Hence, CMBR is same frequency for all observers within the universe, because of Doppler effect, even though the absolute velocities of various celestial objects are different, The CMBR is due to the absolute motion of the various celestial objects. The various celestial objects originated with the same initial mass from CUBH and are at different stages of evolution. However, because of relativistic Doppler effect as above, CMBR is same frequency for all observers within the universe.

3. The angle Sun's motion in the galaxy makes with the Earth's ecliptic (∞)

The Earth's ecliptic changes from + 23.5° to -23.5° during one year, so on an average 47° is the angle which the Earth - Sun line makes with the perpendicular line from Sun to Earth, along the ecliptic. Hence, the

average gravitational force felt along the ecliptic is $G \frac{M_S M_E}{R^2} Sin 47^\circ$

 $\mathsf{Suppose}, {\boldsymbol{\ltimes}}$ is the angle between the Earth's ecliptic and the Sun's path, then

Tan
$$\propto$$
 = $\frac{\frac{dm_d}{dt}}{G} \times U \times \frac{\pi R E^2}{4\pi R^2}$, where $\frac{dm_d}{dt}$.

is the rate of dark matter production from Sun and 'u' is the speed of the dark matter = 2.1456×10^{23}

 $\Rightarrow \quad \frac{1}{\sqrt{2}} \quad \frac{R_1}{r_1} \quad \frac{m_p^2 c^2}{h} \quad \frac{\pi R_E^2}{4\pi R^2} \quad .u = G \frac{M_s M_E}{R^2} (Sin 47^\circ) \tan \alpha$ \Rightarrow tan \propto = 1.798 \Rightarrow alpha = 60.92° which agrees with observed value of 60.2°. Values used are: $R_1 = 6.96 \times 10^8$ $= 4.14481 \times 10^{-5}$ r1 $m_p = 1.674 \times 10^{-27}$ $= 2.99 \times 10^8$ С $R_{F} = 6.378 \times 10^{6}$ h = 6.6236×10^{-34} $= 2.1456 \times 10^{23}$ u $G = 6.673 \times 10^{-11}$ $M_{\rm S} = 1.989 \times 10^{30}$ $= 1.496 \times 10^{11}$ R $M_E = 5.972 \times 10^{24}$

4. Negative time Sun takes to reach CUBH from absolute rest.

Let M_o be the rest mass of Sun. The change in mass of the Sun as it changes direction from going away to coming towards CUBH:

 $= - M_{o} - (+ M_{o}) = - 2 M_{o}$ Compton wavelength of $-2Mo = -\frac{h}{2M_{eC}}$

When Sun reaches CUBH, it will have mass M_u and speed u; which

means Compton wavelength = + $\frac{h}{M_{\rm H}}$ change in Compton wavelength = $\frac{-h}{2M_0c} - \frac{h}{M_{\rm H}} = \frac{-h}{2M_0c}$ as $\frac{h}{M_{\rm H}}$ \lesssim 0 The rate of contraction = rate of expansion = $\frac{c^2}{2u}$

Time taken to reach CUBH = $-\frac{h}{2M_{o}c} \times \frac{2u}{c^2} = -\frac{h \times u}{M_{o}c^3}$

The average velocity of Sun on its returns path to

CUBH = $\frac{0+u}{2}$ = $\frac{u}{2}$. Hence, considering the time inertia across the journey :

Total time to reach CUBH from rest : = $\frac{-hxu}{M_oc^2} X \begin{bmatrix} \frac{h}{M_oc^2} \end{bmatrix}$ $\begin{bmatrix} \frac{h4}{M_uu^2} \end{bmatrix}$ = $-\frac{h \times M_u \times u^3}{M_o^2 c^5 \times 4} = -2.11175 \times 10^{17} = -6.6963$ billion years

Values used :

 M_u = 7.441 X 10²² , M_o = 0.487 kg, h = 6.6236 X10⁻³⁴ $u = 2.1456 \times 10^{23}$, $c = 3 \times 10^{8}$

The time Sun has taken to come to present stage from CUBH = 4.4491 billion years

Time to become BH = 2.67 billion years

So, time to come to absolute rest = 4.4491 + 2.67 = 7.1191 billion years

Total life cycle of Sun from a bubble from CUBH and back to CUBH =7.1191 - (-6.6963) = 13.8954 billion years, which agrees with the age of the observable universe.

5. Why light has universal speed limit :

The speed of light in vacuum is the speed at which the space vibration propagates (nearly 3 x 10^8 m/s) in the universe. Light being carried by space cannot exceed the speed of its carrier). The space vibration and its speed are explained in the explanation of Dark Energy. (Annexure – IV)

6. Some more of my research findings:

- a) All black holes are matter.
- b) Black hole sucks in only matter stars and repels antimatter stars.
- c) There are matter and antimatter stars.
- d) The atomic nucleus keeps matter equivalent of its particles entangled with it, as already mentioned earlier in my theory. Similarly, the solar system, galaxy, cluster, super cluster and the universe.
- e) If the entangled particles (entangled within themselves or with the nucleus) separate; the time to communicate between them would be the distance between the matter equivalents of the entangled particles on the nucleus, divided by the surface speed of rotation of the nucleus, which is infinitesimally small. Hence, the communication between entangled particles, even if they be at the two opposite ends of the universe looks to be instantaneous.
- f) The quantum communication between two entangled photons released from laser through diamond crystal would take a time of :

 $(2\pi r_n)/0.9c = 6.16 \times 10^{-23}$ seconds, i.e., 61.6 yocto seconds. Where, r_n = radius of the diamond nucleus = 2.65 x 10⁻¹⁵m, and 0.9c is the surface speed of the nucleus. This time for quantum communication, 61.6 yocto seconds, is the same for all distances of separation between the two entangled photons. Since, this time is so small, it looks to be instantaneous. g) The time inertia for black hole body radiation (CUBH) is of the order of 10⁻⁷³ seconds. Hence, this can be utilized to measure the quantum communication.

XII. Annexure-VIII

1. PROOF that the planets attract the Sun with a force which is nearly 20,000 billion times greater than the Sun's force of gravitational attraction on the planets:

I have already predicted that the Earth exerts a force on the Sun which is 2.1637×10^{13} times the gravitational force of the Sun on the Earth.

The acceleration of Sun away from the Central Universal Black Hole(CUBH) due to repulsion from the CUBH =

- = (speed of sun bubble from CUBH present speed of sun)/age of sun
- = $(2.1456 \times 10^{23} 3 \times 10^8 2.0993 \times 10^{-7})/2.603$ billion years
- = 0.0147809 x 10⁸

The force of repulsion from the CUBH

 $= 0.0147809 \times 10^8 \times 1.99 \times 10^{30} = 2.9414 \times 10^{36}$

The force of attraction from the planets' calculation:

Planet	Average	Mass	Distance	Density	GMm	Force
	Density	(10 ²⁴ kg)	From	Factor	R ²	from
	(g/cm ³)		sun	$(d/d_E)^{2/3}$	(10 ²³ N)	planets
			(10 ⁹ m)		· · ·	(10 ³⁶ N)
Mercury	5.4	0.330	57.9	0.9878	0.1307	0.2793
Venus	5.2	4.87	108.2	0.9633	0.5524	1.1514
Earth	5.5	5.97	149.6	1.0000	0.3542	0.7664
Mars	3.9	0.643	227.9	0.7952	0.0164	0.0282
Jupiter	1.3	1898	778.6	0.3823	3.9695	3.2835
Saturn	0.7	568	1433.5	0.2530	0.3670	0.2009
Uranus	1.3	86.8	2872.5	0.3823	0.0139	0.0115
Neptune	1.6	102	4495.1	0.4390	0.0067	0.0063

Note: 1. Speed of Sun bubble from CUBH was derived in Age of the Sun (since its birth) in Annexure – I.

2.Force from planets = $(GMm/R^2) \times density factor \times 2.1637 \times 10^{13}$ Total force from planets = 5.7275×10^{36}

Adding the force from asteroids (equal to one planet, Mars) and the moons of the planets (equal to one planet, Mars) approximately, then

Total attractive force on the Sun = $5.7839 \times 10^{36} N$

- So, now if we take the component of the total attractive force on the sun along the line joining the CUBH and the Sun:
- (As per my theory Sun's path of motion makes an angle 59.34⁰ with the ecliptic of the planets)

Then, total attractive force= $5.7839 \times 10^{36} \times \cos(59.34^{\circ})=2.9494 \times 10^{36} \text{N}$ The net attractive force = $2.9494 \times 10^{36} \text{N}$

The net repulsive force = $2.9414 \times 10^{36} N$

Hence, it follows that both the repulsive force from CUBH and the Attractive force from the planets, moons and the asteroids are equal; and opposite along the line joining the CUBH with the Sun, resulting in no net force. That is no acceleration or deceleration of Sun in an absolute sense. However, because the mass of the Sun is increasing at the rate of 9.45 billion tons per second, it will explode as a supernova and become a black hole after 2.67 billion years when its mass reaches 1.4 times its present mass.

2. Derivation of Planck's constant (h) :

The power radiated by Sun as per my theory is :

$$\frac{1}{\sqrt{2}} X \frac{R_1}{r_1} X \frac{m_p^2 c^4}{h} = 4 X 10^{26} \text{ watts}$$

$$\Rightarrow h = \frac{1}{\sqrt{2}} X \frac{6.96 X 10^8}{4.14481 X 10^{-5}} X \frac{1.672^2 X 10^{-54} X 2.99^4 X 10^{32}}{4 X 10^{26}}$$

$$\Rightarrow h = 6.6326 X 10^{-34} \text{ SI units; which agrees with}$$

the experimental value of 6.626 X 10⁻³⁴ SI units.

3. Quantum tunneling :



 r_c = Compton wavelength of proton.

Potential energy = U =
$$\frac{m_p^2 c^3}{h}$$
 . $r_c^2 \left(\frac{1}{x} - \frac{1}{2r_c}\right)$, for
 $x > 2 r_c$, U < 0, force is repulsive
 $x = 2 r_c$, U = 0, force is zero
 $x < 2 r_c$, U > 0, force is attractive

So, quantum tunneling between two protons takes place at a distance of less than 2 x Compton wavelength of proton. This agrees with the fact that strong force between two protons starts from a distance less than 2.5 X10⁻¹⁵ m. Here, quantum tunneling starts from $2r_c = 2.6418 \times 10^{-15} m$. Both agree.

Now, density in the core of Sun = 113420 kg / m^3 . No of protons per m^3

= 67.834 X 10³⁰ protons

No of protons in volume of sphere of radius $2r_c = \frac{4\pi}{3} \times (2.6428 \times 10^{-15})^3 \times 67.834 \times 10^{-30}$

= 5.2448×10^{-12} protons per sphere of radius $2r_c$ Probability of finding another proton in the sphere of radius $2r_c$

= $5.2448 \times 10^{-12} \times 5.2448 \times 10^{-12}$. Speed of protons in the core 500 km/s (distance from which a proton has to come for quantum tunneling on an average =250 km in one second) So, probability of quantum tunneling in the core of sun in one second

$$= P_t = \frac{5.2448 \times 10^{-12} \times 5.2448 \times 10^{-12} \times 1}{250 \times 10^{-3}} \times 1$$

That is 0.9088 in 10²⁸ ($\frac{\dot{pt}}{pt}$ = 0.9088 X 10²⁸) agrees with the observed value of 1 in 10²⁸ per second.

4. Solar Corona heating :

The net attractive force on the sun by the planets = $F = 2.9494X10^{36}$ *N* (derived in Annexure – VIII above).

This force is at Sun's chromosphere.

Force in the corona = F X $\frac{R_s^3 - corona}{R_s^3}$

The force per unit volume at corona – chromosphere interface of the solar corona region is given by (Fv) : _4 π



Fv = 19.7302 X 10¹²

Energy per unit volume of the corona – chromosphere interface

= SQRT(Fv X ch) = 19.771 X 10⁻⁷

Density of the corona = $1.5 \times 10^{-16} \text{ kg/ m}^3$ Mass per unit volume = $1.5 \times 10^{-16} \text{ = kg} \text{ = } m_v$ Heat energy per unit volume $m_v \times C_v \times \Delta T$

 \Rightarrow 1.5 X 10 ⁻¹⁶ X 10142 X \triangle T = 19.771 X 10 ⁻⁷

 \triangle T = 1299608 °K

T corona = $1299608 + 6000 = 1305608 \implies 1.305$ million ⁰K ; at the solar corona-chromosphere interface;

which agrees with the observed value of 1 to 1.5 million degrees Kelvin

5. Strong CP problem :

The radioactive neutron splits due to weak nuclear force into proton – electron with a separation distance of 1.0499 X 10 $^{-18}$ m. Neutron mean square radius = 0.8 X 10 $^{-15}$ m. Electron Compton wavelength

= 2.43×10^{-12} m. Assuming, the electron fits into ordinary neutron; the separation of proton and electron inside a neutron would be .

$$= \frac{(0.8 \times 10^{-15})^3}{(2.43 \times 10^{-12})^3} \times 1.0499 \times 10^{-18} \text{ m}$$

Therefore, the neutron electric dipole moment = 0.374627×10^{-26} e. cm; which agrees with experimental value of < 3 X 10⁻²⁶ e. cm.

The probability of CP violation in strong interaction is less than one – billionth.

Hence, CP violation does not occur in strong interaction.

Hence there is always strong CP symmetry. This solves the strong CP problem.

XIII. Annexure - IX

1. Matter – Anti matter parity in mass within Solar system:

Mass of neutrino = $9.1 \times 10^{-31} = 1.75 \times 10^{-36}$ Compton wavelength of neutrino = $\frac{h}{m_n c} = \frac{6.626 \times 10^{-34}}{1.75 \times 10^{-36} \times 2.99 \times 10^{-8}}$ = 1.26632×10^{-6} Number of neutrinos up to Pluto = $\frac{(19680 \times 2.99 \times 10^{-8})^2}{(1.26632 \times 10^{-6})^2}$ = N = $21.592634 \times 10^{-36}$

Mass of neutrinos = 21.592634 X 10³⁶ X 1.75 X 10 $^{-36}$ = 37.78711 Kg.

Mass of void inside the neutrinos

= m_n X
$$\frac{\pi}{2.1435}$$
 X N factor of the above mass added
Total matter mass = $\left[\frac{\pi}{2.1435} + 1\right]$ X 37.78711 = 93.169 kg = 0.0932 tons

Which agrees with the total antimatter mass of Sun + planets+ moons + Asteroids = 0.092 tons

Hence, there is a slight matter- antimatter disparity inside the solar system, which may mean similar disparity in the universe as well.

2. Speed of separation of earth due to neutrinos impact:

Radius of the hollow (void) of the earth = $\frac{4 R_E}{2 \pi} = 4054 \text{ km}$ No of neutrinos reaching Earth = 3 X 10⁶ X 10⁹/s Area of Earth facing neutrinos' impact, when the neutrinos rebound = $2\pi (4054 \times 10^3)^2$ Momentum neutrinos = $\frac{\Delta E}{3 \times 10^8}$ each Suppose, mass of Earth = M_E, then M_E · V_E = N (2 m_n · v_n)

where N= no of neutrinos , m_n = mass of neutrino , v_n = speed of impact

 \Rightarrow M_E . V_E = 2 (N \triangle p)

Assuming the collision is perfectly elastic and head – on , then the acceleration

 $A_{E} = 3 \times 10^{6} \times 10^{9} 2\pi (4.054 \times 10^{6})^{2} \times \frac{2 \times 2.864 \times 1.6 \times 2}{3 \times 10^{8}}$

(Note : neutrino energy = 6MeV on an average because, 86% of energy = 400 keV, 14 % of energy = 18 MeV $\Rightarrow \land p = (2 \text{ X KE})/c$, where KE = kinetic Energy), Average energy = 2.864 MeV) S (distance of separation of Earth in one year)

$$= \frac{1}{2} A_{E.} t^{2} = \frac{3 \times 2\pi \times 4.054^{2} \times 2 \times 2.864 \times 2.1.6}{2 \times 5.972 \times 3} 10^{-18} \times t^{2}$$

Where t = 365.4 X 24 X 3600 seconds i.e., one year So S = 15.79483 cm / yr, agrees with observed value of 15.3 cm / yr.

3. SONOLUMINESCENCE:

Solubility of air in water at STP = 0.023 g /kg of water

In the air 99.91% is empty space. Radius of the air bubble

=
$$\left(\frac{3}{4\pi} \times 0.023 \times 10^{-6}\right)^{1/3}$$

r = 0.176 X 10⁻² m $\frac{\tilde{\lambda}}{4}$ = r, for resonance.

The air bubble is antinode for the acoustic wave. $\lambda = 0.7057 \times 10^{-2}$ Speed of sound in water =1480 m/s. Frequency, f of the acoustic

wave in resonance with the air bubble = $0.7057 \times 10^{-2} = 209721$.

Suppose, the empty space and the neutrinos get destroyed due to Sonoluminescence:

Energy = 0.023 X(Mass of neutrinos in the air bubble per mass,1g) X c 2

Volume of 1g of air bubble = $V = \frac{10^{-3}}{10^{3}} V_{\circ} = 10^{-6} V_{\circ}$. No of neutrinos in 1g = $\frac{10^{-6}}{\frac{4\pi}{3}} (1.2136 \times 10^{-6})^{3}$

Where 1.2136 X 10 $^{-6}$ m = Compton wavelength of neutrino.

$$\Rightarrow \text{ energy = } \frac{0.023 \text{ X}1.3356 \text{ X } 10^{11}}{(1 - \frac{2.1435^3}{\pi^3})} \text{ X } \frac{9.1 \text{ X}10^{31}}{500000} \text{ X } 9 \text{ X } 10^{16}$$

)

(Note : Actual volume =
$$\frac{0.023 \times 10^{-6}}{(1 - \frac{2.1456^3}{\pi^3})}$$

Power = energy X frequency .

4 -

= 1.26 mW; agrees with observed value of 1 to 10 mW.

$$\frac{4\pi}{3}$$
 X 0.3176 X r³ = 0.023 X 10⁻⁶

 \Rightarrow r = 0.2585 X 10⁻². Empty space = 99.91%

actual air molecules = 0.09%

$$r = 0.09 \times 0.2585 \times 10^{-2} = 2.3265 \times 10^{-4}$$

Applying Stefan's law : 1.26 X $10^{-3} = 4\pi r^2 X \odot X T^4$

$$\Rightarrow T^{4} = \frac{1.26 \times 10^{-3} \times 4 \times 209721}{4\pi (2.3265 \times 10^{-4})^{2} \times (5.67 \times 10^{-8})} = 2.74 \times 10^{16}$$

T = $12,412^{\circ}$ K, this is the temperature due to sonoluminescence ; agrees with the observed range of 5000° K to $20,000^{\circ}$ K.

4. Energy Density of vacuum space:

As per my Theory,

Dark Energyup to Pluto= 6.08136 tonsDark Matterup to Pluto= 2.26890 tonsAnti-matterup to Pluto= 0.0934 tonsMatterup to Pluto= 0.0934 tons

Total Energy up to Pluto = 8.53706 tons

 $\Delta E = \Delta mc^2 = 8537.06 \times 9 \times 10^{16} = 7.683354 \times 10^{20} \text{ J}$ Volume up to Pluto

= π ab X (linear length of space energy vertically, totally)

Where , a = aphelion and b = perihelion of Pluto orbit.

Energy Density =
$$\frac{7.683354 \times 10^{20}}{\pi \times 7.311 \times 4.437 \times 10^{24} \times (\text{total vertical linear length of space wave})}$$

(Note : Energy with amplitude A is given by

 $E = \frac{1}{4} \mu A^2 4\pi^2 \int^2 \lambda$, where μ = mass density / unit

length

 \Rightarrow A = 0.9676 X 10⁻⁶

Compton amplitude = 2 π X 0.9676 X 10⁻⁶

Linear length due to Compton amplitude above mid-point = 2 π X 2 π X 0.9676 X 10⁻⁶

Total vertical length of the space wave = 2 X 2 π X 2 π X 0.9676 X 10^{-6})

Energy Density = $\frac{7.683354 \times 10^{-16}}{\pi \times 7.311 \times 4.437 \times 10^{24} \times 2 \times 4\pi^2 \times 0.9676 \times 10^{-6}}$

= 0.0987 J / m³, agrees with observed value of nearly 0.1 J / m³.

5. Dark Matter does quantum communication:

A) Every energy-emitting object emits an

equivalent amount ($\Delta m = \frac{\Delta E}{C^2}$) of dark matter.

B) Dark Matter travels at the speed of 2.1456 X 10²³ m/s through space and does quantum communication (proof of speed was given in Annexure - VII in the derivation of the angle, Sun's motion in the galaxy makes with Earth's ecliptic.)

C) Observable universe diameter = 28 BLY = 2.65 X 10²⁶ m is travelled by dark matter in 0.3432 hours

That is, $\frac{2.65 \times 10^{26}}{2.1456 \times 10^{23}} = 1.2355 \times 10^{3} \text{ s} = 0.3432 \text{ hours}$

because most of the universe is just space.

D)Time to travel 1400 km distance for the dark matter through space for

quantum communication = $\frac{1.4 \times 10^{6}}{2.1456 \times 10^{23}}$ = 6.525 X 10⁻¹⁸ s

which is almost instantaneous

E) Dark Matter travels through space, celestial objects, black holes, except through the void inside them.

F) Dark Matter can be slowed down by spatial friction.

6. Dark Matter particle emitted by electron is the biggest dark matter particle in size :

 $r_{dme} = \frac{h}{2\pi m_e u} = 0.54 \text{ X10}^{-27} \text{ m} \Rightarrow \text{size} = 4\pi r^2_{dme} = 3.665 \text{X10}^{-54} \text{ m}^2$

which is nearly 1000 times smaller than the sensitivity of the XENON1T detector (sensitive down to 4.1 X 10^{-51} m^2); and hence escapes detection in XENON1T detector.

7. Speed of separation of Proxima Centauri star from the Sun (due to impact of dark matter) (Proof of Dark Matter Speed) :

Acceleration of Proxima Centauri (pc) away from Sun = a_1 =

 $\frac{1}{1} \frac{R_{1}}{1} \frac{R_{1}}{r_{1}} \frac{m^{2}c^{4}}{hc^{2}} \frac{2\pi (r_{pc} \chi \frac{2.1435}{\pi})^{2}}{4\pi R^{2}} X \frac{2u}{M_{pc}} = 0.0116 \times 10^{-7}$

Acceleration of Sun away from PC = a_2 =

 $= a_{2} = \frac{1}{\sqrt{2}} \frac{R_{pc}}{r_{1 pc}} \qquad \frac{m^{2} c^{4}}{hc^{2}} \qquad \frac{2\pi (R_{1} X \frac{2.1435}{\pi})^{2}}{4 \pi R^{2}} \frac{2u}{M_{s}}$

= 0.0177 x10⁻⁷ m/s²

Relative acceleration = $a = a_1 + a_2 = 0.0293 \times 10^{-7} \text{ m/s}^2$

Velocity of separation = SQRT(2 a x distance to proxima centauri) = 16.415 km/s; due to impact of dark matter. Actually, the radial velocity of separation is 22.4 km/s, (difference being due to impact of dark energy).

Where ,
$$R_{pc}$$
 = radius of PC = 0.1542 Rs
 M_{pc} = mass of PC = 0.1221 Ms
 $r_{1 pc}$ = mean-free path on PC = $r_1 X \frac{3100}{6000}$ (temperature on PC)
 u = speed of dark matter = 2.1456 X 10²³ m/s

Note : Another Proof of Dark Matter speed was given in Annexure-I: point.10, in the derivation of Age of the Sun(since its birth).

XIV. Annexure – X

1. Star formation in the observable universe (OU):

Energy released per second in the observable universe

$$= \frac{1}{\sqrt{2}} \quad \frac{R_1^{1}}{r_1^{1}} \quad m_p c^2 X \ 10^{24} X \quad \frac{m_p c^2}{h} \ (\text{ i.e., } \frac{U^1}{t_p}) \text{ , where}$$

$$R^1_1 = \text{average star radius} = \quad \frac{(M^1)^3}{(M_s)^3} X \ \sqrt{\frac{R_s}{4.25}}$$

$$r^1_1 = \text{average star mean-free path} = r_1 \text{ (on the surface of sun)}$$

 M^1 = 4.25 X M_s = average mass of a star;

 10^{24} = number of stars in observable universe (OU).

= 3.4553 X 10 51

If 'n' number of stars are formed per second, (due to the reconversion into matter of the energy released by stars). Then, n X M^1 X c^2 = 3.4553 X 10^{51} , n = 4,516

 \Rightarrow 4,516 stars are formed per second in the observable universe; which agrees with the observed value of nearly 4,800 stars per second.

The difference can be due to star formation from black holes.

2. Relative velocity of separation (expansion) of the universe:

The Sun goes with an absolute speed of nearly 'c' and retarded by spatial friction 'a'.

$$\vartheta = \sqrt{u^2 - 2as} = \sqrt{c^2 - 2as} = c \sqrt{1 - \frac{2as}{c^2}}$$

since $\frac{2as}{c^2} \ll 1$ $\vartheta = c \left(1 - \frac{as}{c^2}\right)$

Relative velocity of separation observed from one star is $\vartheta_{\,\text{s}}$.

 $\Rightarrow 2 \vartheta_{s} = c - \vartheta = \frac{as}{c} \Rightarrow \vartheta_{s} = H_{o} s \& H_{o} = \frac{a}{2c} ; \text{ we know that}$ retardation due to spatial friction = $a \frac{1}{M_{s}} \cdot c \cdot \frac{dM_{s}}{dt} \Rightarrow H_{o} = \frac{1}{2M_{s}} \cdot \frac{dM_{s}}{dt}$ (and $\frac{dM_{s}}{dt} = 9.45 \times 10^{12}$ as per my theory)

$$= \frac{9.45 \times 10^{12}}{2 \times 2 \times 10^{30}} = 2.3675 \times 10^{-18}$$

Which agrees with the observed value of $H_o = 2.5 \times 10^{-18}$

3. Matter – mass and anti –matter mass of the universe:

Anti –matter mass of the universe (i.e., the mass of all stars)

$$= \left[\frac{R_{A}}{R_{o}}\right]^{3} X N_{1} X M^{1} = 2.5927 X 10^{92} \text{ kg}.$$

 R_A = actual radius of the universe = 140 BT ly = 1.3244 X 10³⁹ m

R $_{\circ}$ = radius of the observable universe =43.989 X 10²⁵ m

N $_1$ = number of stars in the observable universe = 10^{24} .

 M^1 average star mass = 4.25 X M_s .

Space-mass= $\frac{h}{lc \times \frac{4\pi l^3}{3}}$ $\frac{4\pi}{3}X R^3_A$, (where l = amplitude

of space wave = 8 π^2 X 0.9676 X 10 ⁻⁶) = 1.506 X 10⁹² kg.

Matter-mass of the black holes = 1.450×10^{92} kg.

 $(= 4.25 \times 2 \times 10^{30} \times 6.25 \times 10^{9} \times \frac{R^{3}{}_{A}}{R^{3}_{}_{o}} \times (= 27.3 \times 10^{36}) \times \frac{10^{24}}{10^{11}})$ $(= M^{1} \times \text{number of Black holes per galaxy } \times \text{Black hole mass } X \times \frac{R^{3}{}_{A}}{R^{3}_{}_{o}}) \times 10^{36} \times 10^{$

Matter-mass = Black holes mass + space-mass = 2.956×10^{92} kg.

Anti matter mass = mass of stars = 2.5927×10^{92} kg.

Matter-mass and anti matter mass are almost equal ; with matter – mass slightly more. In the process, the actual radius of the universe is confirmed as 140 Billion Trillion Light years.

4. Pressure of space at the surface of CUBH (Central Universal Black hole):

Pressure due to a column of height R_A is

 $P = \ell a R_A$ where $\ell =$ spatial density,

a = spatial retardation, R_A = actual radius of the universe.

$$P = \frac{h}{lc \times \frac{4\pi l^3}{3}} \times \frac{c}{M_s} = \frac{dM_s}{dt} = R_A = 29056$$

Where $l = 8\pi^2 \times 0.9676 \times 10^{-6}$ m. R_A = 140 BTL y Suppose, CUBH is full of electrons. Then,

$$\mathbf{r} = \mathbf{r}_{e} \times 3 \sqrt{\frac{1.2 \times 10^{-23}}{0.91 \times 10^{-32}}} = 3.090 \times 10^{12}$$

Where γ_e = classical radius of electron = 2.818 X 10⁻¹⁵

$$P_{CUBH} = \frac{m c^3}{h} \times \frac{\pi r^2}{4\pi \ell^2 \times 4\pi \ell^2} = 32,715 \text{ N/m}^2.$$

agrees with 29056 N / m^2 ; which means the CUBH is anti-matter spinning at speed more than the speed of light.

5. Quantum entanglement & Quantum communication:

a)QC is done by dark matter at the speed of 2.1456 X 10²³ m/s as per my Theory.



which they have cone; & u is the speed of dark matter.

6. Smallest possible mass at Earth:

$$\frac{h}{lc} = \frac{6.626 \times 10^{-34}}{2 \times 4\pi^2 \times 0.9676 \times 10^{-6} \times \frac{1}{0.1646}} = 0.476 \times 10^{-38} \text{ kg}$$

 ℓ – the amplitude of space wave = $8\pi^2 \times 0.9676 \times 10^{-6}$ m is at a distance of 1230 ℓ s from the sun (the mid - point amplitude – wise; between Sun and Pluto).

The factor = 0.1646 = $\left[\frac{499 \,\ell \,s}{1230 \,\ell \,s}\right]^2$

This smallest mass of space wave at Earth is less than the minimum neutrino mass of 0.04 eV = $7.12 \times 10^{-34} \text{ kg}$

7. Distance of Sun from CUBH:

Speed of Sun released from CUBH = $u = 2.1456 \times 10^{23} \text{ m/s}$

Retardation by space to Sun.

$$= \frac{u - c}{age of sun} = \frac{2.1456 \times 10^{23}}{140.31 \times 10^{15}} = 1.5292 \times 10^{6} \text{ m/s}^{2}$$

Distance of separation of sun from the CUBH =

CUBH =
$$\frac{u^2 - c^2}{2a}$$
 = $\frac{2.1456^2 \times 10^{46}}{2 \times 1.5292 \times 10^6}$ = 1.5052 X 10⁴⁰ m

Actual radius of the universe = $0.1324 \times 10^{40} \text{ m}$ Assuming a layer of thickness = $0.1324 \times 10^{40} \text{ m}$, for each layer of mini universe above CUBH, we are (along with sun)

now in
$$\left[\frac{1.5052 \times 10^{40}}{0.1324 \times 10^{40}} 11.37\right]$$
, 12th mini universe from CUBH.

8. Brahma day :

One Bramha day is 4.32×10^9 human years. Suppose our 12th universe is half bright with stars and half-dark with black holes. Also , Suppose, the 8th universe (= $7.03231987 R_A$) is the place from where humans have migrated to the 12^{th} universe. If the plate of the universe (8^{th}) is moving tangentially at the speed of dark matter, then it would take

$$0.1324X10^{40} \times 7.03231987 \times \pi$$
 seconds to see 2.1456 X 10²³

one Brahma (bright) day = 1.363288323 X 10^{17} seconds. which agrees with

the belief that one Brahma (light) day = 4.32×10^9 human years

 $= 1.36328832 \times 10^{17}$ seconds.

9. Every second in the observable universe, 10 stars explode forming black holes / neutron stars:

Stars with final masses in the range of 2.5 solar masses collapse to form black holes.

Total mass in OU : 1.5×10^{53} kg. Average mass of a star = $\frac{1.5 \times 10^{53}}{10^{24}}$ = 1.5×10^{29} kg

Per second, the number of stars which come to 2.5 solar masses explode and become black holes.

$$\frac{d_{M} \text{ star}}{dt} = \frac{M}{3R} \frac{\text{star}}{\text{star}} \times \left[\frac{d_{R} \text{ star}}{dt} = \frac{c^{2}}{2u} \right]$$
$$= \frac{9.45 \times 10^{12} \times 1.5 \times 10^{29}}{2 \times 10^{30} \times (13.33)^{3}} \times \frac{1}{\sqrt{13.33}}$$

 R_{star} will be less by a factor of $\frac{21.14}{\sqrt{13.33}}$ where 21.14 X R_s = R_{s-} corona

and 13.13 =
$$\frac{2.0 \times 10^{30}}{0.15 \times 10^{30}}$$
 = $\frac{M \text{ s}}{M \text{ star}}$;
 $\frac{2.99 \times 10^8 \times 10^{24}}{33.33 \times 2.5 \times 2 \times 10^{30}} \times \frac{21.14}{\sqrt{13.33}} = 10.387$

10.387 stars per second become black holes in the observable universe; which agrees with 10 stars / s.

10. Speed of Dark Energy:

Temperature of the universe 2.7525 ° K

Dark energy up to Pluto = $\frac{(\pi \text{ ab}) 4\pi \text{ E}}{\lambda^2 \ell_{\text{max}}} = \infty 19680 \text{ X} \pi \text{ab} \text{ X} \frac{c}{\vartheta_{\text{dE}}} \text{ X} \text{ T}^4$

Where symbols have usual meaning as per my Theory and ϑ_{dE} = speed of dark energy. We know, by observation

T = 2.732 ⁰ K, E $_{\ell}$ = 2.56135 X 10⁻¹⁹ J, λ $_{\ell,max}$ = 7.75 X 10⁻⁷ and 19680 c = distance(average) to Pluto solving the above, we get ϑ_{dE} = 9.9758X10¹² m/s.

11. Proof of speed of dark energy (ϑ_{dE}):

Assume, the dark energy causes the centrifugal force on the Earth , $% \left({{{\rm{T}}_{{\rm{T}}}}_{{\rm{T}}}} \right)$

which is required to keep the Earth in equilibrium.

$$F = G \quad \frac{M_s M_E}{R^2}, \text{equivalent energy} = \sqrt{Fch} = 84118 \text{ X} \quad G^{M} \frac{S M_E ch}{R^2}$$
$$= 8.4118 \text{ X} \quad 10^{-2}$$

2 space waves separated by a (peak to peak) distance of

4X $8\pi^2$ X 0.9676 X 10⁻⁶ X $\frac{1}{0.1646}$ impact as dark energy on the Earth along the equator .

$$\frac{1}{2} \times \frac{h}{\ell c} \times \vartheta_{dE}^{2} \times \frac{\pi R_{E}}{4 \ell} = 8.4118 \times 10^{-12}$$
$$\vartheta_{dE} = 9.4225 \times 10^{-12} \text{ m/s.}$$

Which agrees with the speed of dark energy, calculated as per the temperature of the universe = $9.9758 \times 10^{12} \text{ m/s}$

12. Proof of speed of dark energy (2nd time) using the kinetic energy of the rogue planet SIMP J013656.5 + 093347:

- 1. Velocity(μ -proper motion) = 1.189 mas /yr = 34.44 km /s
- 2. Distance = 19.93 ℓ y .
- 3. Mass = 12.7 MJup
- 4. Radius = 1.22 Rs

$$\frac{1}{2} X \frac{m_{\text{S-W}} x \vartheta_{\text{dE}}^2 x 2 \pi (1.22 \times 6.96 \times 10^8)^2}{\pi (8\pi^2 x \frac{0.9676 \times 10^{-6}}{0.1646} \times 7.9339^2 \times 10^{-4})^2}$$

$$= \frac{1}{2} \times 12.7 \times 1.898 \times 3.444^2 \times 10^8 \times 10^{27}$$

Where m_{S-W} mass of space–wave at Earth = 0.476 X 10⁻³⁸ kg; and 7.9339 X10 9⁻⁷ = $\frac{499}{1220}$ X $\frac{1}{19.93 \times 365.25 \times 24 \times 3600}$ Solving the above, we get $\vartheta_{dE} = 9.9727 \times 10^{12}$ m /s. ; which agrees with the first derivation of $\vartheta_{dE} = 9.9758 \times 10^{12}$ m /s

13. Proof of speed of dark energy (3rd time) using the speed of separation of Proxima Centauri (pc):

speed of PC separation = 22.4 km / s = ϑ speed of PC separation due to dark matter = 16.415 km = ϑ_{dm} $(\vartheta^2 - \vartheta^2_{dm}) = 501760000 - 269452225 = 232307775$

$$\vartheta^2_{dE} = \frac{10^{15} \text{ x } 2.446 \text{ x } 232307775 \text{ x } (8\pi \text{ X } 0.9676)^2 \text{ x } 3.726^4}{2 \text{ x } 2.89 \text{ x } 0.1646 \text{ x } 1.0728^2 \text{ x } 0.1646^2 \text{ x } 4\pi^2 \text{ x } 5269.23}$$

where
$$5269.23 = \frac{27400}{5.2} = \frac{\text{Surface gravity of sun}}{\text{Surface gravity of pc}}$$

 ϑ_{dE} = 10.1777 X 10¹² m/s., the average of all the four findings of

 $\vartheta_{dE} = 9.88705 \text{ X } 10^{12} \text{ m/s}$

14. Smallest measurable time:

The biggest neutrino mass = 0.19 eV =m_n

- smallest measurable time = $\frac{h}{m_n u^2}$
- 4.248 X 10⁻⁴⁴ seconds; agrees with Planck time of 5.39 X 10⁻⁴⁴ seconds.

15. Vacuum energy density :

We are in an ocean of space with the matter as the solid ice; If we take space as liquid water and steam vapor as the energy waves.

The three states obey :

$$E = mc^{2} = \frac{hc}{\ell} = hf$$
vacuum energy density = $\frac{hc}{\ell} \times \frac{1}{\frac{4\pi\ell^{3}}{3}} \times 2$.

The factor of 2 appears; because of energy due to a) space - wave and b) due to space – mass.

= 0.108 J/m³ , which agrees with the observed value of 0.1J/m³ (nearly).

16. Fifth force:

The X17 particle observed in the search for dark matter which is a likely fifth force as observed in Hungarian beryllium experiment, has a mass of 17 MeV.

This was calculated for mass using my universal force and it came as 16.512 MeV. Thus, it is confirmed that if there is a fifth force, that again is a manifestation of my universal force. (Explained in detail in Annexure – XI)

17. Solar Corona Heating Mystery:

The solar corona heating mystery was solved using the impact of dark matter particles from the Sun on the solar corona electrons, and the solar Corona temperature was derived as 1,697,309^oK, which agreed with the observed values of 1 to 2 million^oK. (Explained in detail in Annexure – XI)

XV. Annexure - XI

1. How FIFTH force is same as universal force:

Suppose, the X17 particle which is observed in Hungarian beryllium experiment ; and helium experiments subsequently ;

which was supposed to be the fifth force particle split into positron (e^+) and electron (e^-) as shown



(y) is an energy such that $\lambda_{photon} = 1.213 \times 10^{-12} \text{ m}$. The energy as per universal force is given by :

$$U = \frac{2 m_e^2 c^3}{h} \cdot \lambda^2_{c,photon} \qquad \left[\int_{1}^{\infty} \frac{1}{x^2} dx \right] X \frac{1}{\frac{140}{360}}$$

Where , $l^1 = \frac{\lambda_{c,photon}}{2}$ for complete repulsion between e⁺ and e⁻ which

are matter and antimatter ; the phase angle must be half of between the positron and electron.

$$U = \frac{2 \times 9.1^{2} \times 10^{-62} \times 27 \times 10^{24}}{6.626 \times 10^{-34}} \times \frac{4\pi^{2} \times 1.213^{2} \times 10^{-24} \times 2}{2\pi \times 1.213 \times 10^{-12}} \times \frac{360}{140}$$

Note: $\lambda_{c,photon} = 2\pi X \lambda_{photon}$

We get, U= 16.512 MeV, which agrees with the observed value of 17 MeV, confirming that the fifth force if it exists, is a manifestation of universal force. Fifth force , causes accelerated expansion of the universe.

2. Solar Corona heating mystery solved using the impact of dark matter particles on solar corona electrons:

$$\vartheta \mathbf{r} \mathrm{ms} = \sqrt{\frac{3\mathrm{RT}}{\mathrm{M}}}$$

Assuming a normal temperature of the surface ,for the corona ie; $6000 \ ^{0}$ k, then the speed of the particles in solar corona = 386 m/s. Mass of dark matter particle from sun .

$$m_{dmp} = \frac{1}{\sqrt{2}} X \quad \frac{R_1}{r_1} X \quad \frac{mc^2}{c^2} X \quad \frac{V_1^2}{R_1^2} = 0.7 X \ 10^{-40} \text{ kg}$$

In the event of collision of dmp with an electron, the velocity likely for the electron after collision

$$\vartheta = \frac{0.7 \times 10^{-40} \times 2.1456 \times 10^{23}}{9.1 \times 10^{-31}} = 0.165 \times 10^{14} \text{ m/s}$$

Probability of collision is given by P =

$$\frac{\left[\frac{4\pi}{3}\right]^{\lambda_{e}^{3}}}{\left[\frac{4\pi}{3}\right]^{(386)^{3}}} X \frac{R_{1}^{2}}{r_{1}^{2}} X \frac{m_{p}c^{2}}{h} X \frac{4\pi R_{1}^{2}x4}{4\pi x R^{2}_{corona}} X \frac{4x4\pi (386)^{2}}{4\pi x R^{2}_{corona}}$$

at the middle of corona. = 4.4781×10^{-10}

$$T = \frac{\vartheta^2 rms}{3 R} = 2,188,776 \ {}^{0}k , \text{ which agrees}$$

with observed value of 1 to 2 million ⁰ k

3. Half life time of neutron decay :

The free, unstable neutrons outside the nucleus decay as per :

$$m_n \longrightarrow m_p + e^- + antineutrino$$

Mass – defect in the decay = $\triangle m = (m_n - m_p - m_{e^-} - \frac{m}{r})$
= (1.6749274980 – 1- 6726219237 – 0.0009109384
- 0.000000002) X 10⁻²⁷ kg =0.0013946357 X 10⁻²⁷ kg

Time created = $\frac{h}{\Delta mc^2}$

We know that $\frac{h}{m_n c^2}$ is the time inertia in seconds of one neutron.

One second is equal to $\frac{m_nc^2}{h}$ neutrons. Total time created before

decay= $\frac{h}{\Delta mc^2} X \frac{m_n c^2}{h} = \frac{m_n}{\Delta m}$ seconds

Half – life if neutron decay= $\frac{m_n}{2X \ \Delta m}$ seconds

 $= \frac{1.6749274980}{0.0013946351 \times 2} = 600.489 \text{ seconds}$ Which agrees with the half – life for free, unstable neutrons observed outside

the nucleus = 611 ± 1 seconds.

Note : during the time created by the destruction of mass – defect of neutron = proton + electron + antineutrino; the neutron stays as neutron and is under going the process of decay.

4. Mean temperature of the universe:

Assume a vacuum cube of side 1m, volume =1m³, then the energy inside the cube is 0.0987 J as per my Theory; which is the energy density of vacuum = 0.0987 J / m³

Suppose, T is the temperature of the cube. One space – wave for inside the cube has length

 $I = 8\pi^{-2} \times 0.9676 \times 10^{-6} m.$

The no of waves inside the cube = $1/\ell^3$ Energy per one wave – length = 0.0987 X ℓ^3 Time inertia of space – wave for 1m = 1/cPower as per Stefan – Boltzmann law is

$$^{\circ} T^{4} X 6 X 1^{2} = \frac{0.0987 X (8\pi^{2} X 0.9676 X 10^{-6})^{3}}{1 / c}$$

$$T^{4} = \frac{0.0987 \times (8\pi^{2} \times 0.9676 \times 10^{-6})^{3} \times 3 \times 10^{8}}{5.66969 \times 10^{-8} \times 6}$$

 \Rightarrow T = 2.496 ^o k agrees with the observed value of 2.725 ^o k

5. Solution of hierarchy problem :

Electro weak force (Fw) is 10 25 times gravitational force (F_G). Two oppositely spinning spherical bodies , that is , proton and electron (hence the opposite charge) repel at distances less then γ_w = distance of weak interaction and start attracting at distances greater then this (γ_w) This is the property of all spinning objects.

The universal force due to electron is negligible. The universal force due to

proton and electron = $\frac{m^2 {}_{p}c^3}{h} + \frac{m^2 {}_{e}c^3}{h} \leq \frac{m^2 {}_{p}c^3}{h}$ acting upon a radius of

 r_c = Compton wave- length of proton .

Compton wave length of weak interaction = γ_w

Classical radius of weak interaction = $\frac{\Upsilon_{W}}{2\pi}$

Maximum repulsion at the mid point = $\frac{\Upsilon_{w}}{2 \times 2\pi} = \frac{\Upsilon_{w}}{4\pi}$

So,
$$\frac{FW}{F_G} = \frac{m^2 p c^3}{h} \times \frac{(r_w / 4\pi)^2}{r^2 c} \times \frac{(r_w / 4\pi)^2}{G m_p m_e}$$

= $\frac{1.674 \times 10^{-27} \times 27 \times 10^{24} \times \left[\frac{1.05 \times 10^{-18}}{4\pi}\right]^4}{6.626 \times 10^{-34} \times 1.3209^2 \times 10^{-30} \times 6.6 \times 10^{-11} \times 9.1 \times 10^{-31}}$
= 3.168 × 10⁻²⁵; which agrees with the observed value of $\frac{F}{4\pi}$

= 3.168 X 10 25 ; which agrees with the observed value of $\frac{FW}{F_G}$ being 10 25 times

6. Fermi scale (electro weak scale) :

The Fermi scale of electro weak energies happens at a radius

 v_{ew} = effective radius of electro – weak interaction = 10^{-17} m.

Therefore, it is maximum at mid-point $\frac{10^{-17}}{2}$

So, Fermi scale of electro weak energy :

$$= \frac{\mathrm{m}^{2} {}_{\mathrm{p}} \mathrm{c}^{3}}{\mathrm{h}}. \frac{\mathrm{r} {}_{\mathrm{c}}^{2}}{\mathrm{r}_{\mathrm{ew}} / 2}$$

 $= \frac{1.6726^2 \times 10^{-54} \times 27 \times 10^{24} \times 1.3214^2 \times 10^{-30} \times 2}{6.626 \times 10^{-34} \times 10^{-17}}$

= 3.1981 X 10⁻⁸ J = 248.5 G ev ; which agrees with the observed value of 246Gev.

Note : The electro - weak force peaks at distance $\frac{1.05 \times 10^{-18}}{4\pi}$ m ;

and electroweak energy peaks at a distance of $\frac{10^{-17}}{2}$ m;

because force and energy follow different graphs and peak at different distances .

7. Gravitational waves travel at the speed of dark energy :

Suppose, T is the actual time gravitational waves take to travel to earth in the recent LIGO experiment done in 2015.

$$T^{1} = T \sqrt{1 - \frac{c^{2}}{\vartheta^{2}_{gw}}} \implies T - T^{1} = T \frac{c^{2}}{2\vartheta^{2}_{gw}}$$
$$\implies 2\Delta T^{1} = T \frac{c^{2}}{2\vartheta^{2}_{gw}} - A$$

But, we know that (by differentiating)

$$\Delta T^{1} = \Delta T \sqrt{1 - \frac{c^{2}}{\vartheta_{gw}^{2}}} - T \frac{c^{2} \Delta \vartheta_{gw}}{\vartheta_{gw}^{3}}$$

$$= \Delta T - \frac{T \cdot c^{2}(\vartheta_{gw}-c)}{\vartheta^{3}_{gw}} = \Delta T - \frac{T c^{2}}{\vartheta^{2}_{gw}} + T \frac{c^{3}}{\vartheta^{3}_{gw}}$$

From (A), $\frac{T c^{2}}{\vartheta^{2}_{gw}} = 4\Delta T^{1}$

$$\Rightarrow 5^{\Delta} T^{1} = {}^{\Delta}T + T \quad \frac{c^{3}}{\vartheta^{3}_{gw}}; \text{ and } {}^{\Delta}T = - {}^{\Delta}T^{1}, \text{ because } \vartheta_{gw} > c.$$

Suppose, To is the observed time of travel and ; ϑ_s is the relative speed of separation of the two black holes which merged. Then ,

$$T = \frac{\text{To } c + \text{To } \vartheta_{\text{S}}}{\vartheta_{\text{gw}}} , \text{Now, since } \vartheta_{\text{S}} = 2.87 \times 10^7 \text{ m/s},$$
we have, $T = \text{To } \frac{C + \vartheta_{\text{S}}}{\vartheta_{\text{gw}}}$

$$\Delta T^1 = 1.3372396 \times 10^9 \times 365.25 \times 24 \times 3600 \times \frac{27 \times 10^{24} \times 10^7}{6 \times (\vartheta^3_{\text{gw}})} \times \frac{32.87}{\vartheta_{\text{gw}}}$$

$$= 7 \text{ milliseconds observed in the two Hanford and Louisiana}$$
LIGO detectors. Hence, the speed of gravitational waves is given by solving the above equation = 9.718 \times 10^{12} \text{ m/s}; which

agrees with the speed of dark energy = $9.887 \times 10^{12} \text{ m/s}$.

Hence, gravitational waves travel at the speed of dark energy.

XVI. Annexure - XII

I. Proof of speed of gravitational waves :

Power of motion of Sun = $\frac{dMs}{dt}$. c.c = 8.505 x 10²⁹. (Total).

Power due to creation of dark matter particles

$$= \frac{dm_{dmp}}{dt} \cdot u^{2} = 7.3216 \times 10^{29}$$
Balance = D E + Gravity= $\left(\frac{1}{2} + \frac{1}{2}\right) = 1.1834 \times 10^{29}$
Number of dmp released per second = $\frac{2m_{p}c^{2}}{h} = 2 \times 2.272 \times 10^{23}$
Gravity wave energy = $\frac{1.1834 \times 10^{29}}{2x2.272 \times 10^{23}} = 0.1302 \times 10^{6}$
We have ℓ (space- wave, wavelength) = 693.7 n m.
From the equation of time - inertia; $\Delta T' = .\Delta T = \frac{\vartheta g w}{c}$

$$\Delta T' = \frac{\ell}{c} ; \Delta T = \frac{h}{2m_pc^2} \Rightarrow \frac{\ell}{\vartheta gw} = \frac{h}{2m_pc^2} \cdot \frac{\vartheta gw}{c}$$
$$\Rightarrow \vartheta^2 gw = \frac{2m_pc^3\ell}{h} \Rightarrow \vartheta gw = 9.7242 \times 10^{12} \text{ m/s};$$

Which agrees with the average $9.887 \times 10^{12} \text{ m/s}$ derived earlier.

2.Quantum decoherence time:

mass of space - wave = 0.476 X 10⁻³⁸ kg Time inertia of a space - wave =. $\frac{h}{m_{sw} xc^2} = \frac{6.626 \times 10^{-34}}{2000 \times 10^{-38} \times 9 \times 10^{16}} = 1.5467$ ps.

This is the time for decoherence at the highest; and agrees with 1 to 5 ps observed typically for quantum decoherence of qubits in quantum computers.

3) Quantum computing using dark matter particles :

The dark matter particles released on Earth have radius =

$$\frac{1}{\sqrt{2}} X m_p X \frac{r_2}{R_2} X \frac{m_1}{m_2} X 2 = m_{dmp. E}$$
$$= \frac{1}{\sqrt{2}} X \frac{1.6726 \times 10^{-27} \times 1.83 \times 10^{-10}}{6.357 \times 10^6 X \frac{20.5375}{2}} = 0.3316 \times 10^{-44}$$

Time- inertia of a dmp on Earth = $\frac{6.626 \times 10^{-34}}{0.3316 \times 10^{-44} \times 9 \times 10^{16}}$ $= 2.222 \times 10^8 \text{ s.} = 2569.7 \text{ days}.$

The decoherence time for qubits using dark matter particles on Earth = 2569.7 days = 7.0354 years. The speed of such a quantum computer Will be 0.7152×10^{15} times the proton based or even electron- based quantum computers. [Because, all dark matter particles of all origins travel at 2.1456 X 10^{23} m/s].

4) Total Energy of CUBH :

Suppose, the matter equivalent mass of CUBH

= M, then
$$\left(\frac{M}{m_e} \times m_{dme}\right)^2 \times \frac{u^3}{h}$$
 is the force = $\frac{M^2_{DME}c^3}{h}$
= $\frac{m^2_{dme}c^3}{h}$ = $\frac{m^2_e u^3}{h}$ \Rightarrow m^2_{dme} = m^2_e . $\frac{u^3}{c^3}$

(M = matter equivalent mass for CUBH

$$= \frac{h}{2\pi R_{\text{CUBH}}} = \frac{h}{2\pi \times 9.81 \times 10^{-64} \times 3 \times 10^8} = 3.5953 \times 10^{20})$$

$$M^2 X \frac{u^6}{c^3 h} = M^2_{DME} X \frac{c^3}{h} \Rightarrow M_{DME} = M X \frac{u^3}{c^3}$$

Here, M $_{DME}$ is one dark matter particle - equivalent of CUBH. m $_{dme}$ is dark matter particle - equivalent of electron.

Hence, the energy of CUBH = M X $\frac{u^3}{c^3}$ X u^2 = 6.055 X 10¹¹¹J.

Energy of 132 universes = $1 \cos \theta = 6.0424 \times 10^{111} \text{J}.$

14 mini universes (Earth in one of the mini universe),each being 140 BT ly (BT ly = Billion Trillion light years) wide make one universe, and :

132 universes = 1 cosmos.

That is 132 X 14 mini universes around CUBH. All concentric spheres of

140 BT ly width.

5) Rate of increase of Sun's mass:

Force of attraction by planets = 5.7839×10^{36} N in a direction at an angle 59.34° to the direction of repulsion from CUBH.

Perpendicular component to force from CUBH = 5.7839×10^{36} Sine (59.34°)

Velocity of expansion of Sun in the direction of force from the planets

 $= \frac{c^2}{2u}$

Hence, velocity of expansion perpendicular to force from the CUBH =

$$\frac{c^2}{2u}$$
 Sine (59.34°)

Therefore, $\frac{dM_s}{dt}$ c² = 5.7839 X 10³⁶ Sine (59.34°) X $\frac{c^2}{2u}$ Sine (59.34°)

$$\Rightarrow \frac{dM_{s}}{dt} = \frac{5.7839 \times 10^{36} x \text{Sine}^{2} (59.34^{\circ})}{2u}$$

= 9.9735 B tons/s ; agrees with the earlier derivation of 9.45 B tons/s.

6) Speed of snapshot of the cosmos taken by the CUBH (speed of imagination):

Time inertia of the CUBH = $\frac{hc^3}{Mu^5}$

Total time of mapping the cosmos once by CUBH = $\frac{2hc^3}{Mu^5}$

Total distance covered for mapping of the cosmos = $2\pi R_{TOT}$

Therefore, highest possible speed is the speed of snapshot of the cosmos

taken by the CUBH = $\frac{2\pi R_{TOT} \times Mu^5}{2hc^3}$ = <u>7.68669 X 10⁴² X 1.4146 x 10²² X 4.572 X 10¹¹⁶</u> 1.789 x 10⁻⁸

= 2.7638 X 10¹⁸⁹ m/s

=1.4146 X 10^{22} is the dark matter equivalent mass of CUBH.

7) Cosmological constant (Δ):

$$\Delta = 8\pi d_{vac} \qquad \frac{G}{c^4}$$
2 Space - waves with a peak to peak distance of
$$4 \times 8\pi^2 \times \frac{0.9676}{0.1646} \times 10^{-6} \text{ hit the earth.}$$
r (space - wave) =
$$4 \times \frac{8\pi^2 \times 0.9676 \times 10^{-6}}{4 \times 2 \times 2 \pi \times 0.1646}$$
Volume of space - wave =
$$\frac{1.68855 \times 10^{-12}}{8}$$
mass-energy of space - wave =.
$$\frac{0.476 \times 10^{-38}}{4} \times 9 \times 10^{16}$$
Energy density =
$$\frac{8}{4} \times 2 \times 537 \times 10^{-10} \text{ J/m}^3 \text{ for one space - wave.}$$
Note: 2 space waves impact Earth @ 180° phase difference between them.

Maximum energy density of vacuum at Earth = 2 X 2.537 X 10^{-10} J/m³

$$= 5.074 \text{ X } 10^{-10} \text{ J / m}^3$$

Therefore, $\Delta = 8\pi \text{ X } 5.074 \text{ X } 10^{-10} \text{ X } \frac{6.676 \text{ x } 10^{-11}}{81 \text{ x } 10^{-32}}$
$$= 1.051046 \text{ X } 10^{-52} \text{ / m}^2 \text{ ,}$$

which agrees with observed volume of 1.1056×10^{-52} / m².,

8) When matter is destroyed in sun dark matter and dark energy are released which are nearly equal in energy content and in opposite directions at the same time :

In Sun, $m_{dmp} = 0.62 \times 10^{-40} \text{ kg}$ (as per Theory)

No. of hydrogen atoms on Sun's surface = $\frac{4\pi R_1^2}{4\pi r_1^2} = \frac{R_1^2}{r_1^2}$

Dark-matter released energy =

 $(1 / 2)X \frac{R_1^2}{r_1^2}$ X m dmp X u² = 8.03663 X 10¹⁹ J along the ecliptic.

So, over the entire Sun's surface

= $2\pi X 8.03663 X 10^{19} J = 50.49566 X 10^{19} J$

So, comparing with the dark energy up to Pluto orbit (= 54.73224 X10¹⁹.J) both are nearly equal. Here. DME < DE, hence the expansion.

There is an equal amount of DME released by the Sun as the energy is released. The DME released from the sun keeps the solar system in tact within its coordinates in the Milky Way galaxy; because, DME is attractive and tends to contain. The DE within solar system up to Pluto orbit is because of the rotation of the seen and the planets. Since DE is slightly more than DME, the solar system slowly expands.

9) Proof that the cosmos consists of 132 universes, with each universe containing 14 mini universes of 140 BT ly - width :

Space density =
$$\ell = . \frac{0.467 \times 10^{-38}}{\frac{4\pi}{3} \left[\frac{4\pi \times 0.9676}{0.1646} \times 10^{-6} \right]^3}$$

= 2.818 X 10⁻²³

Suppose R is the radius of the cosmos.

Assume a square cylinder of cross section square with v_e side (v_e is the Compton wave length of one electron in CUBH)

$$\frac{\ell^2 c^3 x (r_e^2 x R)^2}{h A} = + \frac{1.2^2 x 10^{-46} x 2.1456^3 x 10^{69}}{2 x A x h}$$

[the factor half is because, half the force is inwards]

Note $v_e = 24.3 \times 10^{-12}$ $R^2 = 6.1363 \times 10^{-84}$ $\Rightarrow R = 2.4772 \times 10^{-42}$ \Rightarrow 133.64 universes and 14 mini universes.

The discrepancy between 132 (earlier value) and the present value 133.64 is because there is space gap between universes. That is, 24.567 BT ly; between successive universes.

10. Hubble's constant (Ho) derived using excess DE in solar system :

Excess DE over DME

- = (54.73224 50.49566) X 10¹⁹ J.
- = 4.23568 X 10¹⁹ . J

$$\frac{1}{2} \text{ m}\vartheta^2 = \text{Excess DE} = \frac{1}{2} \text{X} 1.989 \text{ X} 10^{30} \text{. x} \vartheta^2 = 4.23568 \text{ X} 10^{19}.$$

 ϑ = 6.5262 X 10 $^{-6}$ and $\vartheta^{\, 1}$ = $2\pi \vartheta$, when ϑ^{1} is radial speed.

$$\vartheta^{1} = H_{o} \ 2\pi R_{sc} \Rightarrow H_{o} = \frac{6.5262 \ x \ 10^{-6}}{2\pi \ x \ 2\pi \ x \ 1.471344 \ x \ 10^{10}} X \frac{1}{4\sqrt{2}}$$

= 1.9862 X 10^{-18} s⁻¹ which agrees with observed

value of 2.262 X 10⁻¹⁸ s⁻¹

[2 space waves = peak to peak 4 amplitudes = $\frac{1}{16^{\text{th}}}$ of DE is

to be taken, Half the DE helps in separation of sun from stars

and
$$\frac{1}{2}$$
 in separation from planets.
Hence, the factor $\frac{1}{\sqrt{2}}$ appears]

11. Using Poiseuille's law to find out the time of formation of the cosmos :

Force of retardation of sun

= 5.9645524 X 10^{36} N = 6π η R_{sc} ϑ (Stoke's law)
$$\Rightarrow \eta = \frac{5.9645524 \times 10^{36} \times \cos(59.43)}{6\pi \times 1.471344 \times 10^{10} \times 3 \times 10^8} X - \frac{1}{1.989 \times 10^{30}} X - \frac{2.5}{2.266}$$

fractional difference due to Hubble constant

= $3.6 \times 10^{-14} \times Cos (59.43) \times \frac{2.5}{2.266}$ Poiseuille's equation :

Q (volume rate of flow of space from CUBH) = $\frac{\pi Pr^4}{8 \eta R}$ Where, P is the

pressure difference between CUBH and the periphery of cosmos, η is the viscosity of space, r is the Compton wave length of one electron in CUBH, and R is the radius of cosmos.

$$Q = \frac{v}{T} = \frac{\pi P r^4}{8 \eta R} \Rightarrow T = \frac{(4\pi/3)R^48 \eta}{\pi P r^4} \quad ; \text{ and } P = \frac{m^2 u^3}{h r^2}$$

$$\Rightarrow T = (4\pi/3) \frac{6.1363^2 \times 10^{168} \times 8 \times 3.604 \times 10^{-14} \times \cos(59.43)}{\frac{\pi \times 1.2^2 \times 10^{-46} \times 2.1456^3 \times 10^{-69}}{6.626 \times 10^{-34}} \times 2.43^2 \times 10^{-24}}$$

= 309.7944 trillion years; which agrees with the Indian estimate of 311.04 trillion years.

12) Fine structure constant (α):

As per my theory, the time inertia of a body with speed, ϑ is $\frac{h}{m\vartheta^2}$

To cover distance of 2π r in time-inertia, is possible only if 'r' is the

Bohr radius for electron of mass me

Hence,
$$\vartheta = \frac{2\pi r}{h/m_e \vartheta^2} \Rightarrow \vartheta = \frac{h}{2\pi m_e r}$$

Therefore, fine structure constant = $\frac{\vartheta}{c}$ = $\frac{h}{2\pi m_e rc}$ using

the values $v = 5.291772109 \times 10^{-11}$

 $m_e = 9.10938356 \times 10^{-31}$ c = 2.99792458 X 10⁸ h = 6.62607004 X 10⁻³⁴

We get d_{τ} = fine structure constant

= 0.0072973526 ; which agrees

with observed value = 0.0072973525628.

13) Speed of space flow at our mini universe (or observable universe) :

We are in the 12th mini universe from the CUBH, at 11.762 R_{A} , where $R_{\text{A}}{=}140$ BT ly.

Recall, I said dark energy is due to the flow of space.

Speed of space flow at the periphery of cosmos =

 $(133.64 \text{ x } 10 \text{ x } 0.1324 \text{ x } 10^{40})$ / 2π ← Compton factor. 311.04 x 10¹² years

= 2.5254 X 10²⁰ / 2 π

Speed of space flow @ 11.762 R_{A} distance that is our observable universe.

 $= \frac{\frac{4\pi}{3} \times (11.762 \times 0.1324 \times 10^{40})^3}{\frac{4\pi}{3} \times (133.64 \times 14 \times 0.1324 \times 10^{40})^3} \times \frac{2.5254 \times 10^{20}}{2\pi}$

= 9.9862 X 10^{12} m/s. agrees with the earlier derived speed of dark energy for our OU = 9.887 X 10^{12} m/s.

14) Rydberg constant:

As per my theory the universal force due to Proton in hydrogen atom is given by:

$$\frac{1}{2} \quad \frac{m^2{}_p \vartheta^3{}_p}{h} \qquad \text{Suppose } v_i \text{ is the inertial radius} \\ \text{and } v_e \text{ is the orbital radius of electron} \end{cases}$$

Energy U =
$$\frac{1}{2} \times \frac{m^2 \mathcal{P} \mathcal{P}^3 \mathcal{P}}{h} \times \int_{\mathcal{O}}^{\mathcal{V}_e} \frac{\pi \mathcal{r}_i^2}{4\pi \mathcal{r}_e^2} \times d\mathcal{r}_e = \frac{1}{8} \cdot \frac{m^2 \mathcal{P} \mathcal{P}^3 \mathcal{P}}{h} \cdot \frac{\mathcal{r}_i^2}{\mathcal{r}_e}$$

So
$$\Delta E = \frac{m^2 p \vartheta^3 p}{8h} X \gamma_i^2 \left[\frac{1}{n_1^2} - \frac{1}{n_2^2} \right]$$
 since $\gamma_e = 0.529 n^2 A^\circ$
$$= \frac{h \vartheta_e}{\lambda}$$
 Therefore $R_{\alpha} = \frac{m^2 p \vartheta^3 p}{8h^2} X \gamma_i^2$

8hϑe

Value R_{α} for hydrogen = 890377.587 ; agrees with observed value of 10973731.5685

Values used are : $m_p = 1.67262119 \times 10^{-27}$

Proton speed = $= 2.2233 \times 10^{6}$

 r_i = inertial radius of electron = 2 π X 2.81794 X 10⁻¹⁵

 $\vartheta_{e} = 2.2 \times 10^{6}$

15) Ratio of dark energy to dark matter energy :

Protons per cubic meter on an average in the universe = 6 $m_{dmp} = 0.62 \times 10^{-40}$ kg dark matter energy = 6 X m_{dmp} X u² = 6 X (0.62 X 10⁻⁴²) X 2.1456² X 10⁴⁶ = 17,125, 389.6 J/m³ Space-wave mass = 0.476 X10⁻³⁸ kg

Dark energy density =
$$\frac{n \vartheta_{dE}}{\ell_s x (\frac{\ell_s}{2 \pi})^3}$$

Where $l_s = \frac{0.9676}{2 \times 0.1646} \times 10^{-6}$

Dark energy density = 44, 860,826.648 J/m^3

Ratio of DE to DM = 2.6195507195 which agrees

with the observed value of 2.5185185185.

16) Speed of light:

The carrier for light is space. Space flows like a venture orifice flow into our mini universe from the radial flow from CUBH to periphery of cosmos. Space actually flows at a very high speed radially from CUBH to periphery of cosmos. The radial flow of space at our OU is the speed of DE in our OU, The venturi flow perpendicular to this radial flow is the speed of light in our OU.(11.762 R_A from CUBH).

Proof: Using Bernoulli's equation and CUBH Density:

$$\vartheta^{2}_{I} = \frac{2}{d} \cdot \frac{(P_{1} - P_{2})}{1 - (A_{2})^{2}} = \frac{2}{d} \cdot \frac{m^{2}_{u} u^{3}}{h4 \pi \ell^{2}} \left(\frac{1}{10} - \frac{1}{11}\right)$$
(1-0.01)

$$= \frac{2 \times 3.583^{2} \times 10^{40} \times 2.1456^{3} \times 10^{69}}{2.5323263 \times 10^{-13} \times 6.57156569 \times 10^{157}} \times 110 \times 0.99 \times 6.26 \times 10^{-34} \times 4\pi \times \ell^{2}$$

$$\left(\text{Note}: d = 1.037 \times 10^{165} \times \frac{\pi (11.762)^2}{\frac{4 \pi}{3}} (133.64 \times 14^{-3})^3 \times \frac{0.762 \times 44.4 \times 10^{26}}{0.1324 \times 10^{40}}\right)$$

= $2,5323263 \times 10^{-13}$ factor appears.

Therefor, $\vartheta_{\ell} = 2.83062749 \text{ X } 10^8$.Now a factor of $\sqrt{\frac{12}{11}}$

is to be taken as we are moving flow 11th mini universe to 12th mini universe

Hence
$$\vartheta_{\text{tight}} = c = 2.83062749 \text{ X } 10^8 \text{ X } \sqrt{\frac{12}{11}}$$

= 295649399 agrees with 299792458

17) Speed of light (proof) :

Using Bernoulli's equation and CUBH force

$$\vartheta^{2} \iota = \frac{2}{d} \frac{m^{2} \vartheta^{3} \iota}{4 \pi \ell^{2} h} \left(\frac{1}{110}\right)$$

$$= \frac{2}{h} \frac{\chi}{\ell^{2}} \frac{4\pi}{3} \left(\frac{\ell}{2\pi}\right)^{3} \chi \frac{m^{2} \vartheta^{3} \iota}{4 \pi \ell^{2} h} \left(\frac{1}{110}\right)$$

$$= \frac{\ell \vartheta}{\ell \vartheta} \chi 2 \chi \frac{4\pi}{3} \chi \frac{\ell^{3}}{8\pi^{3}} \frac{m^{2} \vartheta^{3} \iota}{4 \pi \ell^{2} h} \left(\frac{1}{110}\right)$$

$$\Rightarrow \vartheta^{3} \iota = \frac{3h^{2} \chi 110 \chi 4\pi^{3}}{\ell^{2} \chi m^{2} \iota} \Rightarrow \vartheta \iota = \sqrt{330 \chi 4\pi^{3}} \chi \frac{h}{\ell^{m} \iota}$$

$$= \sqrt{330 \times 4\pi^{3} \times \frac{6.626 \times 110 \times 4\pi^{3}}{\frac{0.9636}{0.1646} \times 10^{-6} \times \frac{1.2 \times 10^{-23}}{\frac{1.60621144 \times 10^{5}}{4}} \times \frac{(11.7116)^{3}}{(133.64 \times 14)^{3}}}{4}}$$

= 7.64831760 × 10⁸

No of electrons on the surface of CUBH

$$= \frac{4\pi (3.090 \times 10^{-12})^3}{4\pi (2.818 \times 10^{-15})^2 \times 4 \times 4} = \frac{6.4248576 \times 10^5}{4 \times 4}$$
$$= \frac{1.6062144 \times 10^5}{4}$$
$$\vartheta_{\ell} = \frac{12.2848378748 \times 10^8}{4} = 3.07120946 \times 10^5 \times \left(\frac{132}{133.64}\right)^3$$

ϑ ε = 299789668 for R _{v u} @ 11.7116 R_A agrees with 299793458 m/s.

18. Speed of dark matter:

mp. $\vartheta_{P} = m_{dmp} u$ conservation of momentum

$$u = \frac{1.6726219 \times 10^{-27} \times 9.987 \times 10^{12}}{4\pi \times 100 \times 0.62 \times 10^{-40}}$$

 $\left(\begin{array}{cc} \text{angular momentum of proton} = & \frac{m\vartheta}{4\pi} \\ \left(\vartheta_{\text{vac}} = \frac{c}{100} & \vartheta = & \frac{\vartheta_{\text{dE}}}{c} \end{array} \right) \Rightarrow u = 2.144 \text{ x } 10^{23} \text{ m/s, which}$

agrees with earlier prediction of $u = 2.1456 \times 10^{23} \text{ m/s}$

19) Coulomb's constant :

$$\frac{\mathrm{Ke}^2}{\mathrm{v}_{\,\mathrm{c}}} = \frac{1}{2} \cdot \frac{2}{5} \cdot \frac{(\,\pi^5 - 32\,)}{\pi^2 \,(\pi^3 - 8)} \, \mathrm{X} \,\mathrm{m}_{\mathrm{e}} \,\mathrm{X} \,(\,2\,\pi\,\mathrm{X}\,22.65763\,\mathrm{v}_{\mathrm{c}}\,)^2 \left[\frac{4\,\pi}{\mathrm{h/m_{e}}\,\mathrm{c}^2}\right]^2$$

from my theory :

Note : change energy is equated to rotational energy of electron

$$K = \frac{1}{4\pi} X \frac{1}{\sqrt{2}} X \frac{1}{\sqrt{0.48263}} X \frac{ch}{\pi (22.65763) e^2}$$

= 8.8056125143 X 10 ⁹ agrees with the observed there of 8.9875517923 X 10 ⁹.

20) Wien's displacement law constant :

 $\frac{hc}{2 \lambda_{max}} = \frac{5}{2} K_{B'} T. = \text{average energy.}$

emitted by the black body of linear molecules. Linear molecules have 5 degrees of freedom. Hydrogen has 5 degrees of freedom : 3 translational + 2 rotational @ NTP

$$\lambda_{\text{max}} = \frac{hc}{5'k_{\text{B}}} \frac{1}{T}$$
 So, b = $\frac{hc}{5k_{\text{B}}} = 2.87755469 \times 10^{-3}$

agrees with measured value of 2.89771956 X 10 -3

21) Hubble's constant using dark energy per cubic meter :

Excess DE over DME = 44860826 .65 – 17125389 .6 = 27, 735,437.05 J/m³

Excess energy per proton in the side - wise Opposites of the cube with side one meter

$$=\Delta E = \frac{27735437.05}{6} X (2 \pi X 0.855 X 10^{-15})^{3} X (\frac{2 \pi x 0.855 x 10^{-15}}{1})^{2}$$

felt at a distance of one meter, $\Delta E = \frac{1}{2} X (2m_{p}) \vartheta^{2}$

 $5 \times 2\vartheta = H_{\circ} \times R (= 1m)$ 5 degrees of freedom

 $H_{\,\circ}\,$ = 2.2758952 X10^{-18} s^{-1}\, which agrees with observed value of 2.2620639 X 10^{-18} s^{-1}\,

22) Magnetic flux quantum:

In a super conductor, resistance is zero. Therefore , electrons travel at nearly the speed of light "c":

 ϑ is the speed of electron , inside the atom ; and c outside in the

super conductor . Hence $\frac{c}{-1} = 1/_{cc}$ electrons are released in a super conductor at any time. ϑ

Time inertia of electron moving at 'c' = ℓ / c.

= where ℓ is the length of the quantum ring So $\int_{1}^{1} = \frac{\ell}{\frac{2\pi r}{2}} = \frac{ec}{2\pi r}$

Around a small loop, the flux.

$$= BA = \frac{4 \circ I (\pi r^{2})}{2r} = \frac{4 \circ e c}{2\pi r(2r)} \cdot \pi r^{2} = \frac{4 \circ e c}{4}.$$

Suppose, $\frac{c}{\vartheta} = \frac{1}{-c} = n$ the number of electrons released,
Then $\Phi_{\circ} = \frac{4 \circ e c}{4} \times n = 2.0678338366 \times 10^{-15}$

agrees with observed value of 2.06783383 X 10⁻¹⁵ webers.

23) Josephson current constant :

Suppose the thickness of the Josephson junction is ' $\, {\rm cc}^{\, \prime} \,$

$$\frac{\partial \Psi}{\partial t} = 8\pi \frac{nc}{d} = 2\pi k_{J} \frac{d\Phi}{dt} = 2\pi k_{J} \frac{4}{2\pi r d} \cdot 2\pi r d \cdot \frac{neC}{d}$$

$$\Rightarrow k_{J} = \frac{4}{n400} = 4.83597859 \times 10^{14} \text{ agrees with}$$
observed value of 483597.8484 GH
Note : $\frac{\partial \Psi}{\partial t} = 2 \times 4 \pi \times \frac{nc}{d}$
total phase
2 electrons

24) Klaus von Klitzing constant :

Magnetic flux quantum for a super conducting matter .

$$\Phi_{\circ} = BA = Y_{oneC}$$

Hall voltage is in + ve and ve directions of y –axis. Then, in one direction.

V Hall,y =
$$\frac{1}{2}$$
 $\frac{d \Phi_o}{d t} = \frac{1}{2}$ $\frac{4 \operatorname{onec}^2}{d}$, I_x, current = $\frac{\partial \Theta_o}{d}$
R_K = $\frac{V \operatorname{Hall}}{I_x, \operatorname{current}} = \frac{1}{2}$ $\frac{4 \operatorname{onec}^2}{d}$ X $\frac{1}{\operatorname{ec/d}} = \frac{4 \operatorname{onc}}{2}$

$$= \frac{2 \pi \times 10^{-7} \times 299792458}{0.00729735256} = 25812.80747807 \text{ ohms}$$

agrees with observed value of 25812.80745 ohms

25). Bohr magneton (৭) :

$$y = I. A = \frac{e}{h/m_{e}\vartheta^{2}} . \pi \gamma^{2}$$
$$= \frac{e\vartheta^{2}m_{e}}{h} . \pi \gamma^{2} = \frac{e\vartheta^{2}m_{e}}{h} . \left[\pi X \left(\frac{\vartheta}{2\pi}X \frac{h}{m_{e}\vartheta^{2}}\right)^{2}\right]$$
$$= \frac{e}{4\pi}\frac{h}{m_{e}} = 9.27401 \times 10^{-24} \text{ J/T}. \text{ agrees with}$$

observed value of $9.7274009 \times 10^{-24} \text{ J/T}$

26) Nuclear magneton:

$$Y = I. A = \frac{e}{\frac{h}{m_P \vartheta_P^2}} \quad .\pi \gamma^2 = \frac{\ell \vartheta_P^2 m_P}{h} (\pi \gamma^2)$$
$$= \frac{e}{h} \frac{\vartheta_P^2 m_P}{h} \cdot \pi X \left(\frac{\vartheta_P}{2\pi} X \frac{h}{m_P \vartheta_P^2}\right)^2 = \frac{h}{4\pi m_P} = 5.0507837 \times 10^{-27}$$

agrees with observed value of 5.05078369 X 10⁻²⁷ J/T

27) Proof of Sun's mass increasing:

The observed drift of Earth = 1.5 cm/yr. The drift should be 14.38 cm/yr as per my Theory due to the space released when mass is destroyed in Sun. The drift nullified due to Sun's increased mass = 14.38 - 1.5 = 12.88 cm/yr.

By applying inverse square law, the (dR/dt) $_{Fmax}$ = (12.88² / 1.5²) x 14.38 Therefore, (dM_S/dt)max = (2 M_S/R) x (dR/dt) $_{Fmax}$ = 8.9336 B Tons/s, Which agrees with the earlier estimated value of 9.45 B Tons/s.

THEORY OF UNIVERSALITY

Annexure – XIIA

1) Number of black holes in Andromeda Galaxy = N:

Peripheral speeds of stars in A. G = 9.4×10^6 m/s

No. of stars in the stellar halo in A. G. = 14 %

Energy of the halo stars =(1/2) X 0.14 X 10¹² X 2 X 10³⁰ X 9.4² X 10¹² — (A)

= N.
$$\frac{hc}{2 \pi \lambda u}$$
 where λu . 2 π is the Compton wavelength of the

DM particles from black holes.

$$= N \qquad \frac{hc}{2 \pi \underline{h}} = \frac{(M_u uc)N}{2 \pi} \qquad B$$

Equating A and B we get N \approx 33; which agrees with the 35 discovered so far.

Now, M _u = Mass of DM particle coming out of BH = 7.441×10^{22} kg.

u = speed of dark matter = 2.1456 X 10²³ m/s; is proved for the 4th time in my Theory.

2) Escape velocity of CCBH:

Let it be ϑ_{e} .

$$\frac{1}{2} \vartheta_{e}^{2} = \frac{G'' m''_{CCBH}}{R''_{A}}, \text{ i.e., } \vartheta_{e} = \sqrt{\frac{2Gm_{CCBH}}{R_{A}}} \cdot \frac{C}{C^{11}}$$

Where G^{11} , m^{11}_{CCBH} , R^{11}_A are the gravitational constant, mass of CCBH, actual radius of CCBH at a point where

speed of light = c^{11} = 2.148285 m/s,

m _{ССВН} = 1.2 X 10⁻²³ kg, R_A = 9.81 X 10⁻⁶⁴ m. Substituting , we get

 $\vartheta_e\,$ = 2.1053 X $10^{23}\,$ m /s observed in our Milky Way Galaxy

space-time and agrees with dark matter speed of 2.1456 X 10^{23} m/s. That is, the dark matter just escapes CCBH.

3) Radius of Cosmos using gravitational pull:

The universal force of CCBH when

we consider its matter equivalent:

 $\frac{\mathbf{m}^2_{\text{CCBH}} \mathbf{c}^3}{h} \quad \frac{\mathbf{c}^2}{\mathbf{u}^2} \quad \frac{\mathbf{r}^3}{\mathbf{R}^3} \text{ on 1kg mass } - \mathbf{A}$

The gravitational force on one kg mass at the periphery of the cosmos

Equaling A and B, we get

$$R = \frac{m_{CCBH} \times C^3}{h G} \times r^3 \times \frac{C^2}{u^2}$$
 where the

$$\mathbf{r} \text{ is given by } \underbrace{\frac{1 \text{ kg}}{1}}_{(2X3.87)^4} = 9.9 \times 10^{-24} \times \frac{4\pi}{3} \times \mathbf{r}^3$$

Hence, we get. R= 262.1 T T light years; which agrees with the earlier derived value of 258.72 T T light years.

4) Mass of Solar Corona electron neutrino at Earth:

(Note: Energy follows inverse square law with distance).

Solar Corona electron neutrino has energy 0.81 Mev.

Time taken for light to clear a distance of 8 million km above photosphere

i.e., Corona = $\frac{80}{3}$ = 26.67 s

Divide by two because this time is considered in 500s for light to travel from Sun to Earth =13.34 s

Divide by another two; because it is considered in travel from corona to

photosphere and back to Earth = $\frac{13.34}{2}$ s Mass of the neutrino at Earth = $\frac{0.81 \times 10^6 \times 1.6 \times 10^{-19}}{9 \times 10^{16} \times (13.34)^2 \times 500^2} \times 4$

= 1.2947×10^{-37} kg; agrees with observed value = 1.25×10^{-37} kg.

5) Matter – Anti matter Asymmetry in Milky Way Galaxy:

OU is expanding at the rate of 67.5 km / s/ 3.26 mly.

$$R_{MNG} = 52.850 \text{ ly} \cdot \text{v} = \frac{4\pi}{3} \mathbf{r}^3 \Rightarrow \frac{dv}{dt} 4\pi \mathbf{r}^2 \frac{dr}{dt} \Rightarrow \frac{dv}{dt} \text{ year.}$$
$$= 4\pi \mathbf{X} (52850 \times 9.461 \times 10^{15})^2 \times 67500$$

X
$$\frac{0.5285}{32.6}$$
 X 1. 339 X 10⁻³⁹ X (365.25 X 24 X 3600)
A Mass of space
 $\frac{4\pi}{3}$ X (8 π^{2} X 0.9676 X 10⁻⁶)³ X $\left(\frac{26.67c}{500c-13.34 c}\right)^{6}$

= 28.6478 X 10³² kg / year — matter created per year

Compare it with nearly 7 stars born per year = 28×10^{32} kg/year \longrightarrow anti matter

The matter - antimatter asymmetry is 2.26%;

which agrees with the nearly 1 % found.

6) Speed of light at the periphery of OU:

Suppose, the speed difference between the speed at Earth and the edge of OU (Observable Universe) is:

 $\Delta \vartheta = \mathbf{c}' - \vartheta_{dE}$, where ϑ_{dE} is the speed of dark energy at Earth.

Then,
$$\Delta \vartheta = \frac{\Delta x}{R} \mathbf{X} \left(\frac{R}{R}\right)^2 \vartheta$$
 тот, where

 \triangle x = radius of OU. R= radius of Cosmos.

 R_1 = radius of Earth from CCBH.

 ϑ_{TOT} = speed of dark energy @ periphery of Cosmos

$$\Delta \vartheta = \frac{133.64 \times 14}{(11.762)^2} \times \frac{4.4 \times 10^{26} \times 2\pi}{0.1324 \times 10^{40}} \times \frac{2.5254 \times 10^{20}}{2 \pi}$$

= 3.7833 c

The speed at the periphery of the OU (Observable Universe) = 3.7833 c Which agrees with the estimated value of 3.47 c.

7) Total time of Cosmos:

Radius of CCBH after Compton factor = $\frac{9.81 \times 10^{-64}}{2 \pi}$ Speed of dark matter ejection from CCBH, within the beginning 10⁻⁴³ s

$$\vartheta = \frac{9.81 \times 10^{-64}}{2 \pi \times 10^{-43}} = \frac{9.81 \times 10^{-21}}{2 \pi} \text{ m/s}$$

Energy of the dense ball before big bang

$$E = \underbrace{\frac{h}{M_{CCBH} \times \vartheta}}_{To convert CCBH mass into Antimatter mass} \times u^2 = 2.59 \times 10^{14} \text{ J} = \text{Total pure energy in cosmos}$$

Smallest energy of neutrino = $0.055 \text{ eV} = E_o$

So time of Cosmos =
$$\frac{h}{E_0} \times \frac{E}{E_0} = 311.65$$
 Trillion years

Which agrees with the well-established value of 311.04 trillion years.

8) Earth is spinning faster:

Time inertia of Earth changed by neutrinos' impact is

$$T = \frac{h}{E} X N X A$$
, where N = number of neutrinos per second

A = area of neutrinos bombardment

E = neutrino energy

If, we take, the charge radius of a neutrino = 1.48379×10^{-18} m; and the energy of the neutrinos bombarding the Earth on an average to be 3 Mev,

Then T= 0.00000002 s/s; and the Earth is spinning faster by 63.11 ms per year which agrees with the observed value.

9) Age of Sun due to its time inertia:

The average energy of neutrinos released by Sun = 0.53 Mev

Number of neutrinos released by Sun = 1.8×10^{37} / s = N Time inertia of formation for 0.53 Mev of neutrino energy.

$$\Delta t = \frac{h}{0.53 \text{ Mev}}$$

for 1.8 X 10 37 neutrinos/s, the total time inertia of formation = N X \triangle t

$$= \frac{6.624 \times 10^{-34} \times 1.8 \times 10^{37}}{0.53 \times 10^{6} \times 1.6 \times 10^{-19}} = 4.455 \text{ billion years};$$

Which agrees with the already established value of 4.5 billion years.

10) Half-life decay time of neutron:

Time-inertia of neutron half-life before it decays into proton, electron and anti neutrino:

$$n = p + e + an$$

$$= \frac{En}{Eo} \cdot \frac{Ean}{Eo} \cdot \frac{h}{Eo} \cdot \frac{1}{2} \cdot \frac{1}{3} \leftarrow 3 \text{ particles (p, e, an)}$$
where, Eo = 0.055 eV
En = 939.37 Mev
Ean = 0.156 Mev (electron anti neutrino)

Then,

а

ou

T = half-life of neutron decay = 607.75s which agrees with the observed value of 615s

11) Radius of OU(Observable Universe) R ou:

Suppose, the area of the corridor away from CCBH having one neutrino width is a = R X $2\pi r$; where 2r is the diameter of neutrino of the OU.

$$R = \frac{6.624 \times 10^{-34} \times 2.82 \times 10^{-25} \times 2x1.298 \times 10^{79} \times 60 \text{ eV.}}{0.055 \text{ eV} \times 13.787 \times 3.1557 \times 10^{16} \times \pi \times 0.55 \text{ ev}}$$
CCBH

= 4.398×10^{26} = 46.611 billion light years

which agrees with the estimated Rou = 46.527 billion light years.

Note:

It is indeed the lowest-energy neutrinos which create lime. Taking the size of an average neutrino to be 10^{-44} sq.cm., and the energy to be 60 eV; and the total no. of neutrinos in OU = 1.298 x 10^{79} and the OU formed 13.787 billion years back, we get the result.

12) Radius of OU around CCBH:

The energy of vacuum @ Earth per m^3 using inverse square law:

$$\frac{E \times R^2 \text{ CUBH}}{\frac{4\pi}{3}R^3 \text{ CUBH} \times R_1^2} = 0.1 \text{ J/m}^3$$

Where E is the pure energy in the cosmos

And R1 radius of OU from CCBH .

$$\Rightarrow R_{1}^{2} = \frac{2.59 \times 10^{14}}{4\pi} \times \frac{(9.81 \times 10^{-64})}{(2\pi)^{3}} \times 0.1$$

Solving, we get $R_1 = 11.1593 \times 140$ Billion Trillion light years; which agrees with the earlier derived value of $R_1 = 11.762 \times 140$ Billion Trillion light years

13) Life span of an electron:

Let's take the size of an electron = 2.43×10^{-12} and that of neutrino = $10^{-25} \times 2$.82

Then, the time inertia of electron =

$$= \left(\frac{2.43}{2.82} \times 10^{13}\right)^3 \times \frac{260 \text{ ev X h X } 0.51 \times 10^6}{0.55 \times 0.55 \text{ ev X } 0.55}$$

(Note : The average energy of a terrestrial neutrino is 260 eV. Compton Wavelength of electron = 2.43×10^{-12} m; radius of an average neutrino = 2.82×10^{-25} m)

T = 2.0299903×10^{36} s = 6.689956×10^{28} years;

which agrees with the already estimated value of 6.6 X 10^{28} years

14) Life span of proton:

Compton wave length of proton =1.32 X 10^{-14} m

Time inertia T =

$$= \left(\frac{1.32 \times 10^{11}}{2.82}\right)^{3} X = \frac{505 \times 10^{14} \text{ ev X h X 938.08 X 10^{6} ev}}{0.055 \times 0.055 \text{ ev X 0.055}}$$

(Note : Extra galactic neutrinos' average energy = $\frac{10^{15} + 10^{17}}{2}$

$$\frac{10^{15} + 10^{17}}{2} = 10^{14} \frac{(1010)}{2} = 505 \times 10^{14}$$

Proton life span = $3..832 \times 10^{39}$ years which agrees with the already estimated value of 3.7×10^{39} years.

15) Speed of dark energy and light @ periphery of Cosmos:

$$c \ \alpha \ \vartheta_{dE} \Rightarrow c^1 = \frac{\vartheta_{dE}^1}{\vartheta_{dE}}$$

Speed of dark energy at the periphery of Cosmos = 4.02×10^{19} m/s and at our OU = 9.887×10^{12} m/s.

Therefore. $c^1 = 1.2196 \times 10^{15} \text{ m/s}$. Moreover, the dark matter speed at the

periphery is given by:

$$\vartheta = u = \sqrt{1 - \frac{2aR}{u^2}} = u(1 - \frac{2aR}{u^2})$$

= u (1- 8.1 x 10⁻¹⁵) 🖂 u

So, the dark matter speed is nearly 2.1456 X 10²³ m/s Which is more than dark energy speed; hance, the Cosmos is contained from expansion.

16) Fundamental constants change across Cosmos:

The speed of dark energy ($\vartheta^1 d_E$), and the speed of light (c¹) at the periphery of cosmos are 4.02 x10¹⁹ m/s and 1.2196 X 10¹⁵ m/s respectively; (they are 9.887 X 10¹² m/s, 3 X10⁸ m/s at our OU). And the light speed is a constant equal to 3 X10⁸ m/s in a thin spherical shell of radius 1.64682 Trillion Trillion light years from CCBH; with a thickness of ± 10 billion light years. ie, our OU. The speed of light increases as we go towards the periphery; so all the constants change as we move up and down from this above shell. This is because the space-time existing for each shell is different.

THEORY OF UNIVERSALITY

Annexure - XIV

1) Value of gravitational constant G near the periphery of cosmos (= G¹):

By, Newton's law:

$$F = G \frac{m_1 m_2}{R^2}$$

G¹ = G $\frac{(C^1)^4}{C^4}$ = 0.182266 x 10¹⁷ terrestrial SI units — A

(Note: This is as per Lorentz transformation, c¹ = periphery speed of light) As per my Theory, G = $4 c^3 \lambda^2_p m_p$

Near the periphery of cosmos:

$$G^{1} = \frac{4 (c^{1})^{3} \times \lambda^{2} \times \frac{(c^{1})^{2}}{C^{2}}}{N_{a}^{2/3} h} = \frac{m_{p}}{h} \frac{(c^{1})^{2/3}}{(c^{1})^{2/3}}$$

= 0.181423 X 10^{17} terrestrial SI units - (B)

(Note : C^1 = speed of light at the periphery of Cosmos) Both A and B agree. Hence, the gravitational Constant value changes depending on the space- time and G^1 = 0 .182266 x 10¹⁷ terrestrial SI units.

2) How much is 1 m/s on Earth; when considered at the periphery of cosmos:

By Lorentz transformation, a particle with an absolute speed of 1 m/s on Earth, would move with an absolute speed of -1.653×10^{13} m/s terrestrial m/s; because of the very high speed of space flow along the periphery, at the periphery. The '-ve' sign means all the objects will be bouncing back from the periphery and going towards CCBH.

Note: Earth one m looks like $i \times 4.065 \times 10^{6}$ terrestrial meters and one Earth second is

- $i \times 2.4598 \times 10^{-7}$ terrestrial seconds at the periphery.

3) Gravitational Force magnitude remains the same:

If you consider a thin spherical shell of thickness 15 billion light years near the periphery of the cosmos, then 1kg mass (Earth) and 1 m length (Earth) would be

-i X 2.46 X 10 ⁻⁷ terrestrial kg and **i** X 4.065 X 10⁶ terrestrial m, at the periphery; which means mass and distance become virtual by Lorentz. Earlier, we have seen that time also becomes virtual. But, strangely, The magnitude of gravitational force between any two 1 kg mass on Earth at a distance of 1 m continues as 6.673×10^{-11} terrestrial N; both on the Earth and at the periphery. That is, the change in space-time has no effect on the magnitude of gravitational force.

4) No. of parallel Earth-like universes:

Number of parallel earths as already observed

$$= \frac{311.04 \text{ trillion years} \rightarrow \text{ time of cosmos formation}}{4.32 \text{ billion years} \rightarrow \text{ time of Earth formation}} = 72,000.$$

$$\vartheta^{11}_{dE}$$
 = Speed of expansion near the CCBH = 7.58 X 10⁴ m/s

speed of light at close to CCBH = $c^{11} = \frac{\vartheta^{11} dE}{\vartheta^{dE}}$ c = 2.148285 m/s

Number of parallel earth-like universes =

$$N = 4 X \left(\frac{11.762 \times 140 \times 10^{12}}{2 \times 46.508} \right) X \left(\frac{2.148285}{3 \times 10^8} \right)$$

(Note $N = \frac{2\pi R 1}{2R ou} X \frac{C^{11}}{C} = 71,999$ B)

Now A and B agree.

5) High-energy neutrinos travel at the speed of dark matter:

mass of neutrino = $\frac{h}{l \vartheta}$; where ϑ is the speed and l its size $3 \times \frac{h}{l \vartheta} \times \vartheta^2 = 10^{21} \text{ eV} \rightarrow \text{ the factor 3; because of 3 degrees of freedom}$ $\vartheta = \frac{10^{21}}{3} \times \frac{2.426 \times 10^{-12} \times 1.6 \times 10^{-19}}{6.626 \times 10^{-34}}$

=1.9527 x 10^{23} m/s ; which agrees with the speed of dark matter in our OU

Note: Speed of dark matter is already proved 4 times theoretically so far in this Theory.

6) Gravitons are space-waves that travel at an absolute speed of 4586509 m/s.

By Force-Energy equivalence, the gravitational force at Earth by Sun and the mass (m_{sw}) and speed of gravitons ϑ_{q} are related as:

$$\sqrt{\frac{GMSME}{R^2} ch} = \frac{1}{2} m_{sw} \vartheta^2 g \frac{R^2 E}{\ell_{sw}^2}$$

Solving, we get ϑ g = 4586509 m/s.

where R = distance of Earth from Sun

R_E = radius of Earth

 ℓ_{sw} = Compton wavelength of the space-wave

 m_{sw} = mass of the space - wave = 0.476 X 10⁻³⁸ kg

Since gravitons are space-waves that do not interact with matter, they cannot be detected.

7) Speed of formation of cosmos:

Speed of formation of cosmos =
$$\frac{133.64 \times 14 \times 140 \times 10^{9} \times 3 \times 10^{8}}{311.04}$$

= 2.52637 X 10²⁰ m/s _____A

Speed with which space -mass is released from CCBH:



8) Density of OU:

Taking the density of the cosmos to be uniform and inversely proportional to the square of the distance from CCBH (of density = $1.037 \times 10^{165} \text{ kg} / \text{m}^3$)

We wave

$$\ell ou = \frac{\ell_{CCBH} X (8\pi^2 R_A \times \frac{c}{c^{11}})^2}{\frac{R_1^2 X}{2\Delta R_1}} \text{ where } \Delta R_1 \text{ is radius of } OU.$$

Solving, we get $l ou = 10.292 \times 10^{-24} \text{ kg} / \text{m}^3$,

which agrees with the observed value of 9.9 X 10^{-24} kg/m³,

Note: R_A = 140 Billion Trillion Ly R₁ = 11.762x140 Billion Trillion Ly C^{11} = speed of light close to CCBH = 2.148285 m/s

9) Mass of electron:

Speed of electron in Hydrogen in water molecule =

$$\vartheta_{e} = 2.2 \text{ X} 10^{6} \text{ m/s}$$

Speed of gravitons = ϑ_g = 4586509 m/s Electrons are space waves like gravitons.

Equating the energies of gravitons and electrons

$$\frac{1}{2} \operatorname{m}_{g} \cdot \vartheta^{2} \operatorname{g} \left[\begin{array}{c} \frac{c^{2}}{-\vartheta \operatorname{g}^{2}} & i & \frac{c}{\vartheta \operatorname{g}} \end{array} \right] \longleftarrow \operatorname{energy \ converted} \\ \operatorname{to \ Earth \ space-time} \end{array}$$

$$= \frac{1}{2} \qquad \frac{1}{3} \text{ me } \vartheta^2 e \left(\frac{1}{\sqrt{-25.963}} \right)^2 \qquad \text{Surface speed correction}$$

3 degrees of freedom , and in uni-direction.

Solving we get $M_e = i$ 9.11941635 X 10⁻³¹ kg agrees with observed value, 'i' means total speed more than c.

10) Speed of gravitons at periphery of Cosmos:



Solving, we get ϑ^1 g = 3.243 X 10 23 m/s which is much greater than the speed of expansive dark energy near the periphery (= 4.02 X 10¹⁹ m/s). Hence, the

expansion of the Cosmos is contained by gravitons. The space-mass wraps around and falls towards CCBH, replaced by the new space-mass coming from CCBH. The cycle goes on eternally and keeps the image of the cosmos the same all the time ,until and unless disturbed by a super, mega force.

11) Speed of gravitons in Milky Way Galaxy:

 $\vartheta_{g MWG}$ = in MWG space-time = $-\frac{C^2}{\vartheta_g}$ = -1.959563 X10¹⁰ m/s

The negative sign indicates that while space and objects move away radially outward from the CCBH, the gravitons move radially inward towards the CCBH.

12) Amount of gravitons in our OU:

Rate of mass of gravitons falling into CCBH =

$$\frac{R_{E}^{2}}{\ell_{sw(g)}^{2}} X = \frac{R_{ou}^{2}}{R_{E}^{2}} X = 4\pi R_{1}^{2} X \vartheta_{g(ou)} X \ell_{OU} = 5.31655 \times 10^{48} \text{ kg}$$

Space – mass = 8.8513793×10^{48} kg. This is what is observed at our OU as space-mass produced by CCBH

The difference = 3.5348293×10^{48} kg is the space-debris which falls into CCBH

13) Mass of proton:

Protons are space - waves just like electrons, and taking the speed of proton to be

 $\left(\frac{1}{43}\right)^{rd}$ of electron speed and applying the same logic as applied to electron, we have :

$$\frac{1}{2} \operatorname{mg} \ \vartheta^{2} \operatorname{g} = \frac{1}{2} \operatorname{mp} \ \vartheta^{2} \operatorname{p} \text{ as a guiding principle,}$$
Then, $\operatorname{mp} = \operatorname{mg} \left(\frac{\mathbf{i} \operatorname{C}}{\vartheta \operatorname{g}} \right) \vartheta^{2} \operatorname{g} \left(\frac{-\operatorname{C}^{2}}{\vartheta \operatorname{g}^{2}} \right) \frac{1}{\vartheta \operatorname{p}^{2}}$

$$\Rightarrow \operatorname{mp} = -\mathbf{i} \operatorname{mg} \cdot \frac{\operatorname{C}^{3}}{\vartheta \operatorname{g}} \cdot \left(\frac{43}{\vartheta \operatorname{e}^{2}} \right)^{2} \left(\frac{3}{2} \right) \operatorname{Hydrogen is mono atomic}$$

= - i X 1.63193 X 10⁻²⁷ agrees with the observed

value. Both, in the case of electron and proton (i) means mass is imaginary. Only space can have realistic mass. Speed of space is the same as the speed of light in that space-time.

14) Fine structure constant for cosmos:

• E =
$$\frac{2\pi \left(\frac{R}{2}\right)\pi}{\frac{4\pi}{3}R^{3}}R^{2}$$
 where $\ell_{E} = \frac{E}{\frac{4\pi}{3}R^{3}} \& (\zeta \propto)^{2} = \Delta E$

Now, compare cosmos to hydrogen atom

$$\Rightarrow \zeta = 1$$

$$\propto^{2} = \frac{3\pi}{8\sqrt[3]{2}} \cdot \frac{R^{2}_{AU}}{R^{2}}$$

$$\Rightarrow \propto^{2} = \frac{1}{138.2} = 0.00723589; \text{ which}$$
agrees with \propto for hydrogen = 0.00729927

Hence, the Indian belief as the atom so the cosmos is proved to be correct.

15) Ratio of Hydrogen atom radius to Proton radius:

Radius of CCBH at a point where speed of light is 2.14825 m/s; that is close to CCBH

$$\mathbf{r}^{11} = \frac{h^{11}}{m^{11}_{\text{ CCBH x C}^{11}}} = \frac{h}{m_{\text{ CCBH}}} X \left(\frac{c^2}{(c^{11})^3} \right) = 500536.673616$$

Radius of cosmos at a point where speed of light = 2.148285 m/s that is close to CCBH

= 97,240

$$= R^{11} = \frac{R}{2} \cdot \frac{(c^{11})^2}{c^1 \vartheta^1 dE}$$

Ratio =

Consider, Hydrogen atom.

Van der Waals radius = 120 pm = γ_{H}

 $\frac{R^{11}}{r^{11}}$

Proton radius = 1.237 X 10⁻¹⁵ = \mathbf{r}_p ; Ratio = $\frac{\mathbf{r}_H}{\mathbf{r}_p}$ = 97009 ----B

Now, both A and B agree. So, the Indian belief as the atom so the Cosmos is once again proved to be true and Correct !!.

16) Time inertia for the release of a dark matter particle from CCBH:

Time inertia of CCBH =
$$t_{CCBH} = \frac{8 \times \pi^2 \times R_{CCBH}}{c_{CCBH}}$$

= 1.604 x 10²⁹ s

[Note: Assuming the same angular speed for the CCBH (Central Cosmic Black Hole)

and the Cosmos.

сссвн = $c^{11} x (R_{CCBH} / R^{11}) = 4.828989 x 10^{-91} m/s]$

Time inertia of the dark matter particle released from CCBH:

$$t_{U} = -\frac{h}{-\frac{h}{M_{U} u}} = 1.775 \times 10^{29} s$$
 (B)

Now, both A and B agree. This means, in one rotation of the CCBH around itself, it releases one dark matter particle.

THEORY OF UNIVERSALITY

Annexure - XV

1) Time of travel of DM from CCBH to the periphery of the cosmos:



The dark matter particle comes out of the CCBH and ends up in 2^{nd} MU - BH and so on till it reaches 132 U – 14^{th} MU. Let spatial retardation be a.

$$\frac{u^2}{2s} = a; \qquad \frac{u}{t} = a \Rightarrow t = \frac{2s}{u}$$

Time to reach 132u - 14th MU

$$= \frac{133.64 \times 2 \times \sqrt{\frac{13}{11,762}}}{6 \times 2.1456 \times 10^{23}} \sqrt{\frac{13}{11,762}} \frac{\text{vd}_{\text{as}} \text{ observed at } 11.762 \text{ MU(OU)}}{\text{x} \cdot \frac{\text{vd}_{\text{E}}}{\text{c}} \times 1.4 \times 10^{23} \text{ ly}}$$

= 311.01 trillion years, which agrees with the Indian estimate of 311.04 trillion years.

2) Time for cosmos to fall back into CCBH:

Assuming that the cosmos reached the end of expansion, the time to fall back is

= 174.65 trillion years, which agrees with the Indian estimate of 155.4329 trillion years.

3) Speed of expansion of the universe ultimately:

It is least dark energy speed of 60 km / s / Mpc



= 12.19733 x 10¹² x m/s,

agrees with the speed of dark energy calculated by me as

= 10.1777 X 10¹² m/s

4) Quantum entanglement between particles at the opposite ends of the OU:

 $t_q = t_s x$ _Uand $t_s = 6.16 \times 10^{-23} s$ as per my theory.

For two entangled protons released from the laser through the diamond crystal

Hence $t_q = 6.16 \times 10^{-23} \times \frac{2.1456 \times 10^{23}}{2.99792458 \times 10^8}$ = 4,408682 x 10⁻⁸ s,

which is almost instantaneous and does not depend on the distance of separation, both of which agree with the observations.

5) Earth's heartbeat is every 26 seconds:

This is because of the space wave released from the Sun and traveling at the speed of 1.5 cm/ year @ Earth. The wobble on the Earth due to the space waves released by the Sun is manifesting as Earth's heartbeat.

$$V_{drift} = \int_{T}^{\Lambda} V_{drift} = \frac{0.9676 \times 10^{-6}}{8 \pi^2}$$

$$T = \frac{0.9676 \times 10^{-6}}{0.015 \times 8 \pi^2} 3600 \times 24 \times 365.25 = 25.78s,$$

0.015 x 8 π^2
agrees with the observed value of every 26s.

6) The universe is guided by nothingness or the zero principle:

Total matter energy = Black hole mass energy + (positive energy) Space mass energy Total antimatter energy = Star mass energy + (negative energy) radiation energy + neutrino mass energy $2.956 \times 10^{92} \text{ kg (+)} = 2.956 \times 10^{92} \text{ kg (-)}$

Both are equal in magnitude and opposite in nature, signifying that the Universe has always been guided by nothingness or zero principle, which agrees with the Indian belief.

7) Speed of dark matter:

Let's equate the Newtonian force of repulsion between CUBH and a DM particle with my universal force.

$$\underbrace{\begin{array}{ccc} \underline{M^2_u \ u^3} \\ \underline{h} \\ \underline{2} \\ \underline{M^2_u \ u^2} \\ \underline{M^2_{cuBH}} \\ \underline{R^2_{cuBH}} \\ \underline{$$

 $u.h = G. M_u M_{cuBH}$

 $u = \frac{6.673 \times 10^{-11}}{6.626 \times 10^{-34}} \times 7.441 \times 10^{22} \times 1.2 \times 10^{-23} \times 2$ = 1.7985 x 10²³ m/s, which agrees with my earlier

proved value (proved thrice) of 2.1456 x 10²³ m/s

8) Speed of dark energy:

Gravitons released by the Sun travel at a speed of 4586509 m/s , releasing space @ the rate of 768 m/year at the Sun. Similarly, the dark matter particles released by CUBH release space, which gives the speed of dark energy.

 $v_{dE} = \underbrace{u}_{V_g} x v_{d-sun} x \underbrace{R_1}_{21.14 x R_{s-corona}}$

So, $v_{dE} = 11.661144 \times 10^{12}$ m/s

which agrees with the dark energy speed, proven thrice as

10.1777 X 10¹² m/s

9) Dark matter to Dark energy ratio in our solar system:

Graviton energy = $1 m_g x v_g^2 = 1.2295 x 10^{-19}$ Space – wave energy = $2 m_s x c^2 x$ $\frac{R^2 s corona}{R^2} = 3.0930 x 10^{-19}$ Note : $m_g = 116.898 x 10^{-34}$, $v_g = 4586509$

Factor 2 appears in 2 $m_s \times c^{2xc}$ because one wave comes outside, and another wave goes inside.

Therefore, _DE = 2.5157, agrees with the observed value of 68% / 27% = 2.5185

10) Temperature inside a black hole is zero Kelvin:

Every celestial object contains a hollow sphere at the center of radius $(2.1345 / \pi)R_{-ao}$ (where R_{-ao} is the actual outer radius). This hollow sphere is a perfect void devoid of space, time, matter, and energy. Since the energy is zero, as per the Stefan-Boltzmann law of heat radiation $E = C x AT^4$, the temperature will also be zero, which agrees with the fact that the inside of a black hole is zero Kelvin temperature.

11) Light reflection and refraction:

This is due to the bending of light by the black holes (neutrons in the nucleus) at the surface of the medium. A small portion of the Light traveling straight to these black holes is absorbed. Still, a major portion of the light refracts if the medium is transparent; otherwise, It turns back at the same angle as it entered, which explains why The angle of incidence is equal to the angle of reflection, which is Also, the case of actual black holes.

12) Rotational speed of the black hole GRS 1915+105:

Equate the mass-energy to the rotational energy.

 $Mc^{2} = \frac{1}{2} |w|^{2} = \frac{1}{2} x \frac{2}{3} x MR^{2} x w^{2}$ $R^{2} w^{2} = 3c^{2} \Rightarrow w = \sqrt{3} \frac{c}{R} \Rightarrow \frac{1}{T} = \frac{W}{2\pi} = 972.26 \text{ turns per s},$

Which agrees with the observed value of between 950 to 1000 turns per second.

13) Drift speed of the Moon away from Earth:

KE of Earth -moon system =
$$1$$
 M_E $(c + v)^2 - c^2 = M_E cv$

PE of Moon = 2 KE of Earth

$$\label{eq:FE} \mathsf{FE} \ \mathsf{of} \ \mathsf{Moon} = \mathsf{3M}_\mathsf{E}\mathsf{cv} \ \Rightarrow \mathsf{2t}_\mathsf{e} \ = \ -$$

Vdrift-m =
$$\frac{\pi R^2_{moon} x h}{4 \pi R^2_{moon}} \frac{h}{M_u U} \frac{3M_FCV}{2h}$$

=
$$\frac{1}{4}$$
 x $\frac{3}{2}$ $\frac{3M_{E}CV}{M_{UX}U}$ = 3.981 cm/year

Which agrees with the observed value of 3.82 cm/year

.

14) Stable particles:

The elementary particles that obey the 10 (ten) indentations and equations of my Theory are the stable elementary particles. Since protons and electrons obey, they are stable.

15) Speed of the solar system in the Milky Way galaxy:

V Solar-system =
$$4\pi \frac{R^2}{\pi} x \text{ Vang} (\text{Vang} = \text{Vaverage}) = 16 \text{ Vaverage}$$

 $\pi \left(\frac{R}{2}\right)^2$
 $\text{Vaverage} = \sqrt{2} \sqrt{\frac{M_c N}{M_s}} \cdot c = 12467 \cdot 59$
Note: N = Number of stars in MWG. NMc $x c^2 = 1$ M s V² ang 2

Mc = mass consumed Ms = mass of the Sun.

V_{Solar -system} = 199481.45 m/s, which agrees with the observed value of about 200,000 m/s.

16) Rotation speed of Sagittarius A*:

Rate of release of space–wave energy due to energy released by the stars in $\ensuremath{\mathsf{MWG}}$

$$V = \sqrt{2} \times \frac{21.14 \text{ Rs}}{1.2 \times 10^{10}} \times \text{c x} \frac{1}{2}$$
Average mass of star in MWG is Ms 1
$$= 0.87 \text{c.}$$

Which agrees with the observed value of 0.84c to 0.96c.

Note: if we take the energy and space released by the stars, which are absorbed by the supermassive black hole Sagittarius A*, The rate of space observed is 0.87c, which agrees with the rotation speed of Sagittarius A* observed as 0.84c to 0.96c. The Academia Discussion by Richard Muller of Rutgers University, New Jersey, USA gave the EXPERIMENTAL VALIDATION OF MY THEORY: Rick.

I AM EXTREMELY HAPPY. I AM NOT ABLE TO FIND WORDS.

Thanks a lot for your studious efforts and confirming experimentally my estimation of 31.265 cm / year increase in the radius of photosphere of the Sun due to Sun's mass increase, which is also corroborated by the above confirmation as 9.45 billion tons/s. Incidentally, I have used dark matter speed at 2.1456 x 10^23 m/s to estimate the increase in the mass of the Sun as well as its radius. By the way, I proved this dark matter speed at three places theoretically in my Theory. Please, go thru my Theory.

Thanks once again, Rick.

Surya

Dear Friends,

Confirmation of my Theory of Universality being correct comes from Richard Muller of Reutgers University, NJ. Surya,

I searched for solar eclipse data, and I picked dates between 1499 to 1403 BC, and I calculated the growth of the sun with corrections of expansion of the atom with the term Mp+/me-, the sun's 11-year solar cycle, the expansion of the universe at 0.9850 C, the expansion rate of the universe at e^1, and the possibility that there are 2 universes. The two universes are our matter universe and the parallel anti-matter universe. I Then compared this growth rate to the Earth that Ruud Loeffen calculated, and I used a correction of 109.2^0.5 because of the 1/r^2 value of gravity in Newton's equation and 5/4 for the moment of inertia because the sun has a much less density than the earth to account for the differences of the sun's and the earth's radii. You value for the expansion of the sun is 31.265 cm/yr. The value from the solar eclipse data came out to 31.109 cm//yr. The value of the Earth from Ruud's calculations from his paper came out to 2.4 cm/yr. The corrected value for the Sun using Ruud's calculations came out to31.349 cm/yr using from what I know from my theory.

https://eclipse.gsfc.nasa.gov/SEcat5/SE-1499--

<u>1400.html https://drive.google.com/drive/folders/1V1aI5F_fh7OAH3iCvSQaq5s3fH7YzMea https://www.acade mia.edu/45641072/Invitation_to_pay_attention_to_expansion_A_short_overview_about_the_dismissing_of_exp anding_earth_theories</u>

You are indeed correct Surya! The sun's age is about 5 billion years, and it takes 5 billion years for a star such as the sun to become a red giant, so the sun is very near to becoming and red giant due to this increase in radius and mass. But try to get a mainstream scientist to agree with your theory and my analysis and they will say we are both nuts to cover this information up. This is why they are building the Helion Fusion Reactor to produce anti-gravity waves to turn back time to reverse this process but don't tell anyone as they are all lied to and very delusional and they will not believe you and yell at you due to the world's governments lying abOut science data. This is why the Sun is getting hotter or the climate change as the sun heats up due to increased fusion from the increased mass which will lead to the sun expanding to engulf the Earth and why Elon Musk is building many star ships to move 1 million people to Mars which is outside of the Sun's expansion and why Mars will become like Earth. This is a backup plan if the Helion does not work. But I have my star device being worked on that I am sure will work and save the Earth.

Rick



K.S. Narayana (KASIBHATLA SURYA NARAYANA)(1959 -)

Author : Theory of Universality(1982 -)

The author is a graduate in Electronics from Indian Institute of Technology (1977-82);

and has passed the Civil Services (Main) Exam, 1983.

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Knowledge Park, BANGALORE-560029, India. With an interest in developing a fundamental theory in Physics

With an interest in developing a fundamental theory in Physics; which will encompass the existing beliefs; and solve some of the paradoxes already existing since 1960s, he has taken up this Theory of Universality as a project out of personal interest and hobby. He is not basically a physicist by career, however, with whatever knowledge picked up during the graduate studies, and after consulting some periodicals; he went on to develop this theory.

This theory will serve to be the basic foundation for the future development of Modern Physics; and also be the GUT (Grand Unified Theory) in Physics; unifying the four fundamental quantities space, time, matter and energy; and the four fundamental forces gravitation, electromagnetism, strong and weak nuclear forces.

It is sincerely hoped that this theory will generate interest in the reading public and become useful in further understanding of universe and universality.

K.S. Narayana

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