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ROLE OF CONSERVATIVE LAWS IN IDENTIFYING THE COSMOS AS A SYSTEM OF SYMMETRICAL UNITY

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Abstract- Conservative laws play an important role in the existence of the universe. They involve symmetries in nature. The galaxies are spreading the light into the farer skies. A Hypothetical Experiment on hydrogen molecule nuclear magnetic resonance analysis and the spectral analysis on it suggests that the universe is expanding. The universe can be considered as a network of photons and a collection of electromagnetic fields, as since it is diverging a considerable amount of flux in to the farer skies. Therefore the cosmos can be identified as a system of symmetrical unity.

Keywords: Cosmos, Conservative laws, Universe, Mass, Energy, Angular momentum, Transformation, Symmetries, Celestial bodies.

I.INTRODUCTION

If a system does not interact with its environment in any way, then certain mechanical properties of the system cannot change. Quantities such as energy, momentum, and angular momentum are conserved. 'The Law of conservation of Energy' says that energy is conserved as it can be convertible in to the form of mass and vice versa. 'The Law of conservation of angular momentum says that If one a part of the system is given a momentum during a given direction, then another half of the elements of the system should at the same time incline precisely the same momentum within the wrong way.'
This puts a powerful constraint on the kinds of motility which may occur in an isolated system. 'Law of conservation of probability suggests the symmetries in nature.'

On solving an equation such as $j = \frac{\hbar}{2mi}\left(\Psi^* \frac{\partial \Psi}{\partial x} - \left(\frac{\partial \Psi^*}{\partial x}\right)\Psi\right)$ in reference with non relativistic quantum physics, obtaining the momentum operator, and defining in terms of position basis and converting into momentum operator, it provides spin-'0' particle in electromagnetic field, and spin-'s' in electro-magnetic field.

The magnetic potential can be expressed in terms of Gaussian units, such as in $\mathbf{j} = \rho \mathbf{v}$, where v is the velocity of the particle and also the group velocity of the wave.

On applying the probability current and Schrödinger equation, with the divergence theorem it can be obtained the connectivity equation of integral form such as $\frac{\partial}{\partial t}\int_V |\Psi|^2 dV + \oint_S \mathbf{j} \cdot d\mathbf{S} = 0$, which recommends the symmetries in nature.

II. ENERGY IS CONSERVED

The below is to show that the energy is conserved by deducing from the available equations.

Looking into the Bohr's atomic model [1] of hydrogen atom for the orbits of the electron revolve around the nucleus,

→mvr=nh/2∏
→2∏r=nh/mv(as since h/mv=λ)
→2∏ λ=n λ
→ 2∏r/n= λ →*Equation (1)*
But as per debroglie λ is defined as
λ=h/√2 me v →*Equation (2)*

[This represents a particle in wave nature]
From Equation (1) and Equation (2)
→ √2 me v * r/n =h/2∏ →*Equation (3)*

But as per Heisenberg uncertainty principle uncertainty in position and momentum $\sigma_x \sigma_p \geq \frac{\hbar}{2}$, where *ħ is the plank constant.*

Uncertainty in energy and time is given by,
σ (E) σ(t) >= h/2∏ →*Equation (4)*
Uncertainty in angular momentum and angle is given by,
σ (J) σ(θ) >= h/2∏ →*Equation (5)*
At first taking the equal part and equating with 3rd equation
→ σx σ(P) = √2 me v /n * r
→ Uncertainty in measuring the position and momentum of a particle in an nth orbit is equal to The "Root mean square velocity of the radius of the orbit" From σ (E) σ(t) =√2 me v /n * r
→ Uncertainty in measuring the Energy and time of a particle in an nth orbit is equal to "The Root mean square velocity of the radius of the orbit"
From σ (J) σ(θ) =√2 me v /n * r.

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→ Uncertainty in measuring the Momentum and the angle of a particle in nth orbit is equal to The "Root mean square velocity of the radius of the orbit".

→From the above it is clear that the exactitude is not possible and there is an uncertainty in its coordinates and this matches with the root mean square velocity of the radius of the orbit and this conclusion will lead to deal with the Schrödinger assumption that the "particle is a wave natured." To recall the Schrödinger time independent equation,

$\sigma^2 \Psi+2m/(h/2\prod)(E-\Psi)=0$ →*Equation (6)*

Time dependent equation is $E\Psi=H\Psi$

It can be written as,

$(ih/2\prod * d/dt)\ \Psi = [\ ih/2\prod *\sigma^2 * v]\ \Psi$ → *Equation (7)*

$\rightarrow d^2\Psi /d x^2 +2m/(h/2\prod) * E\ \Psi = 0$ → *Equation (8)*

The above equation is in three regions and there exists three solutions altogether can be considered as reflection wave +transmitting wave =1.

Therefore R+T=1 in the Free State

$\sigma^2 \Psi+2m/(h/2\prod)(E\Psi)=0$ → *Equation (9)*

But the particle velocity is considered as

→vp=√2(E-V)/m

→√m=√2(E-V)/vp

→m=2(E-V)/vp→ *Equation (10)*

Substituting the 'm' value in Equation (8) and Equation (9) as a result it is obtained

$\sigma^2 \Psi+8\prod$ (E-V)/vp *h*(EΨ)=0 →*Equation (11).*

Now considering vp is absolutely equal to v then comparing it with the time dependent equation it is obtained as given below $\sigma^2 \Psi/\sigma x^2+2m/(h/2\prod) *E\Psi=0$.

The multiple term indicates that the debroglie wave of the electron in the 1st orbit is equal to the circumference of the 1st orbit,

S=n λ →λ= S/n → *Now Equation (11)* satisfies the equation, substituting in Reighlie Jeans formula, It is possible to get $E_n= n^2 \prod h^2 /2 \prod L^2$ → *Equation (12)* this satisfies the equation $E_{s/n}$ and now as per planks E=hμ and the angular velocity is given by, P=E/c on solving this it will get $hc/\lambda= hc/\lambda_0 = eV_s$

→ It means the energy is conserved (Proof obtaining by deducing the available equations).

III. PHOTON IS MIGHTIER THAN ELECTRON

The below is to show that the Photon is mightier than electron, by deducing from the available equations.

In an anonymous action when the energy of photon is 1.0 Mev and above, electron positron pair production takes place,

R+T=1

→R+hμ-W=1(as since T=hμ-W)

→R+ h(τ+σ+k)-w=1 (as since T=hμ-W)

→R+ hτ+hσ+hk-w=1

→Now – W=1-R+ hτ+hσ+hk

And now W=1+R- hτ-hσ-hk

Now the work function is W is given by

R+ h(τ+σ+k)-1 → *Equation (13)*

R+T=1

→$R+mc^2 – mc_0^2$ =1 (as since T= $mc^2 – mc_0^2$

$R=1-mc^2 – mc_0^2$ → *Equation (14)*

This Equation can be written as W= ∫hT in between mc_0^2 and mc^2 .Therefore transmitted wave is generated from the negative charge and transmitted towards the positive.

That is multiple of planks constant [2]. It means to say the Photon is incident on Hydrogen atom and that emits an electron and positron. That implies that the orbital angular momenta is an addition of the orbital momenta and angular momenta.

→J=L+S (vector notation)

→L=ΣL_1(vector notation)

→S=ΣS_1

It is because of constant electric anonymous action there to say the photon is mightier than electron and other subatomic particle.

IV. COMPTON EFFECT IS NOT POSSIBLE TO OBSERVE WITH NAKED EYE IN THE OBSERVABLE LIGHT - A PROOF

The below is to show that Compton effect is not possible to see with the naked eye in the observable light, by deducing from the available equations.

The Compton Effect [3] is based on *the law of conservation of energy and the law of conservation of angular momentum*. This Compton Effect is not possible to observe for the observable light.

As per Schrödinger R+T=1

It can be expressed in terms of optics such as,

$$\begin{bmatrix} 1 & -p \\ 0 & 1 \end{bmatrix} + \begin{bmatrix} 1 & 0 \\ D/\mu & 1 \end{bmatrix} = 1$$

Where λ, h are elements in Matrix and μ is being the angle of reflection. The light ray when it passes through an observable system,

$$\begin{bmatrix} h2 \\ \lambda 2 \end{bmatrix} = \begin{bmatrix} b & -a \\ -d & c \end{bmatrix} \begin{bmatrix} h1 \\ \lambda 1 \end{bmatrix} = S \begin{bmatrix} h1 \\ \lambda 1 \end{bmatrix} \longrightarrow s$$

is the system's matrix., But S=T*R. That is

$$\begin{bmatrix} 1 & -P \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 \\ D/\mu & 1 \end{bmatrix} \rightarrow \begin{bmatrix} 1+(-p^*D/M) & 0+D/M \\ 0+(-P) & 0+1 \end{bmatrix}$$

$$S = \begin{bmatrix} 1-p^*D/\mu & D/\mu \\ -P & 1 \end{bmatrix}$$

Now

$$\begin{bmatrix} h2 \\ \lambda 2 \end{bmatrix} = \begin{bmatrix} b & -a \\ -d & c \end{bmatrix} \begin{bmatrix} \lambda 1 \\ h1 \end{bmatrix} = \begin{bmatrix} 1-p^*D/\mu & D/\mu \\ -P & 1 \end{bmatrix} \begin{bmatrix} \lambda 1 \\ h1 \end{bmatrix} \longrightarrow s$$

But it is considered as

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$$S = \begin{bmatrix} 1-p^{*}D/M) & D/M \\ -P & 1 \end{bmatrix}$$

M =h2/h1 There fore

$$\begin{bmatrix} 1/(h2/h1) & -a \\ 0 & h2/h1 \end{bmatrix}$$

Now Equating

$$\begin{bmatrix} 1-p^{*}D/\mu & D/\mu \\ -P & 1 \end{bmatrix} = \begin{bmatrix} 1/(h2/h1) & -a \\ 0 & h2/h1 \end{bmatrix}$$

It can be obtained such as

$1-P*D/\mu = h1/h2$

$1-PD/\mu=(h1/h2)$

$-PD/\mu=1+(h1/h2)$

$1/\mu=1+(h1/h2)*1/PD$

$\mu=1/(1+(h1/h2)*1/PD)$

$\rightarrow 1/[(h2/h1)/h2]*PD$

$\mu= h2/(h2+h1)*PD$

Therefore the polarization of light proves the rectilinear nature of Light. Now μ =tan P (as since P= Polarizing angle r= Angle of Refraction and $r+p=90^0$ and $p=90^0 - r$)

$\mu=1/\sin c$ =Cosec c

Therefore substituting μ=cosec c

It is obtained $D/\mu = -a$

D/cosec c=-a

D=-a sin c

⇨ -p=0

⇨ H2/h1=1

⇨ Now putting in the equation

$$\begin{bmatrix} h2 \\ \lambda 2 \end{bmatrix} = \begin{bmatrix} b & -a \\ -d & c \end{bmatrix} \begin{bmatrix} \lambda 1 \\ h1 \end{bmatrix} = \begin{bmatrix} 1-p^{*}D/\mu & D/\mu \\ -P & 1 \end{bmatrix} \begin{bmatrix} \lambda 1 \\ h1 \end{bmatrix} \longrightarrow s$$

It is obtained

$$= \begin{bmatrix} \lambda 1 & [1-0*(-a\sin c / \operatorname{cosec} c) -0] \\ h1 & [-a \sin c/ \operatorname{cosec} c+1] \end{bmatrix} \longrightarrow s$$

$$= \begin{bmatrix} \lambda 1 & [1-0*(-a\sin c / \operatorname{cosec} c) -0] \\ h1 & [-a \sin c/ \operatorname{cosec} c+1] \end{bmatrix} \longrightarrow s$$

$$= \begin{bmatrix} \lambda 1 & [1] \\ h1 & [-a+1] \end{bmatrix} \longrightarrow s$$

$$\begin{bmatrix} h2 \\ \lambda 2 \end{bmatrix} = \begin{bmatrix} b & -a \\ -d & c \end{bmatrix} \begin{bmatrix} \lambda 1 \\ h1 \end{bmatrix} = \begin{bmatrix} \lambda 1 & [1] \\ h1 & [-a+1] \end{bmatrix} \begin{bmatrix} \lambda 1 \\ h1 \end{bmatrix} \longrightarrow s$$

Therefore the wave length and the internal interval between the molecules are not in an order. It mean to say that the it is not possible to observe Compton Effect to the observable light.

V. HYPOTHETICAL EXPERIMENT TO MEASURE EFFECT OF ELECTROMAGNETIC RADIATION ON THE MAGNETIC FIELDS OF NUCLEONS OF HYDROGEN MOLECULAR CUBE (PROPOSED)

Objective of the experiment: "To find the magnetic field of nucleons and nuclei effect by electromagnetic radiation". The experiment is as follows as given below,

Step-1: Consider a Cube of 1cm * 1cm *1cm which consists of 6 planes and each plane consists as a 4 sides

Step-2: On each plane of the cube let it be considered a "Nuclear curtain" as a plane, the nuclear curtain is a linear combination of a single Hydrogen molecules.

Step-3:

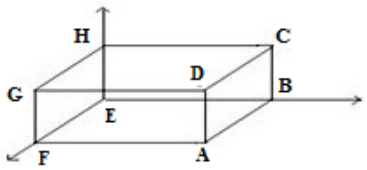

Fig.1: Hydrogen molecular Cube

The Planes are $\overline{ABCD}, \overline{EFGH}, \overline{AFGB}, \overline{DEHC}, \overline{BGHC}, \overline{AFED}$

TSA CUBE $=6S^2$ **LSA** $= 4S^2$ **CUBIC CONTENTS** $=S^3$

Step-4: It can be applied a very strong magnetic field of 3 to 5 Tesla, by passing this cube into MRI Machine, i.e., Magnetic resonance image machine, actually known as Nuclear Resonance Image.

Step-5: The nucleus in a linear combination of Hydrogen molecules revolve on a magnetic axis freely. They point towards different direction and pole, till the moment the magnetic field effect show its influence on their momentum.

Step-6: Now it can be applied 3 to 5 Tesla of powerful magnetic field. Suddenly all nuclear will point towards the same direction and pole.

Step-7: Now let it be passed light on the cube under the powerful magnetic field. The frequency of light is 4.0 X 10^{14} Hz to 7.5 X 10^{14} Hz as per quantum theory The light rays bends. It bends slightly inward. This implies to say the light rays shows deflection

Step-8: In the next step let it not apply magnetic field on the cube and let it pass the light on the cube. The light rays will not show any deflection. The frequency of light remains same.

Result of the Experiment: The frequency of light in Step 7 Allows Down. It is because the relationship between the energy of light and the frequency of light. As since *E in Proportion to M* $\rightarrow E=h\mu$ *(where h is planks constant)*

Explanation for the result**:** *For higher energies the frequency is also high* as the moment the

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light approaches near the magnetic field the frequency slows down. It is a natural phenomenon within which nuclei in a magnetic field absorb and reemit the non particulate radiation. This energy is at a specific resonance frequency that depends on the strength of the flux and therefore the magnetic properties of the atom of the atoms; in this application, the frequency in between 60–1000 MHz.

Hydrogen element is chosen because the existence of hydrogen atom on Earth, elsewhere within the universe.

In the Hypothetical Hydrogen molecular experiment,Bqv=ml W^2 [B is the intensity of electromagnetic field]

W=Bq/m [v is the velocity of particle]

F=Bq/lm [m is the mass of the particle]

Kinetic energy = ½* M V^2= 2Nvq

Here m is the mass of the particle

V is the velocity of the particle

N is the distance travelled

V is the difference between the intensity of electromagnetic fields Q is the charge and the mass of the particle is given by $m= m_0 /\sqrt{1-\mu^2/c^2}$ → Equation (1) with the velocity of particle mass also increases. The Frequency Bq/lm gradually reduces; particle attains the probabilistic shape and slows down. But as per Schrödinger the probability of a particle instantaneously at as a point in a space can be expressed with Ψ(x,y,z,t).

The probable density of a particle is $|\Psi|^2$. The probability of finding the particle within the volume of dx dy dz is given by Ψ^2 dx dy dz =1.The Probable mass of a photon is given by h/c(λ) → Equation (2)

Angular velocity of Photon [4] is h/2∏ . Now considering the Equation (1) and Equation (2) it is obtained

$m_0 /\sqrt{1-\mu^2/c^2} = h/c(\lambda)$

$m_0 c(\lambda)= h*\sqrt{1-\mu^2/c^2}$

$\lambda = h\sqrt{1-\mu^2/c^2} / m_0 c$

Now applying the debroglie wave length

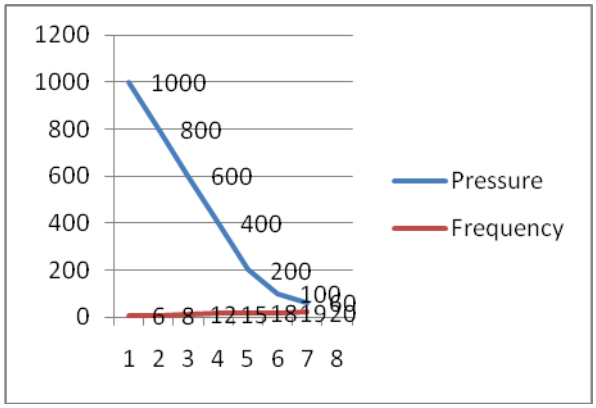
σh/mc=h/ m_0 c(1-cosϕ)

(as since mc= Photon's angular momentum)

cosϕ= ∫ σh/c=1(between m_0 and m)

Frequency	Pressure
1000	6
800	8
600	12
400	15
200	18
100	19
60	20

Table.1. Frequency and Pressure table



Graph 1: Pressure and Frequency Graph

For higher energies the frequency is also high, as the moment the light approaches near the magnetic field, the frequency slows down.

VI.THE EXPANDING NATURE OF THE UNIVERSE

The visible light is a combination of electro-magnetic waves which consists of several wavelengths and frequencies, therefore electromagnetic wave lengths are visible in the form of colors in spectrums as 1nm= 10^{-9} m

Colors	**Energy**	**Wavelength**
Violet	455	430 nm
Indigo	430	390 nm
Blue	492	455nm
Green	577	492nm
Yellow	597	577nm
Orange	622	597nm
Red	770	622nm

Table 3. Colors and wavelengths

When wave length is known energy can be calculated using Planks's theory. Emission of energy in the form of light (energy emitted in the form of light) signifies there is an electromagnetic field.

Color	**Wavelength in nm**	**Corresponding Frequency that is equals to the Gyro magnetic Ratio H**	**Energy Eh H/ 2me**
Violet	455 nm 430 nm 442 nm	6.5×10^{14} Hz 6.9×10^{14} Hz 6.7×10^{14} Hz	4.5×10^{-34} J 4.5×10^{-34} J 4.5×10^{-34} J

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	443 nm	6.7 x 10^{14} Hz	4.5 x 10^{-34} J
	444 nm	6.2 x 10^{14} Hz	4.5 x10^{-34} J
Indigo	390 nm	7.6 x 10^{14} Hz	5.1 x 10^{-34} J
	409 nm	7.3 x 10^{14} Hz	4.8 x 10^{-34} J
	410nm	7.3 x 10^{14} Hz	4.8 x 10^{-34} J
	411 nm	7.2 x 10^{14} Hz	4.8 x 10^{-34} J
	430 nm	6.9 x 10^{14} Hz	3.3 x 10^{-34} J
Blue	455 nm	6.5 x 10^{14} Hz	4.3 x 10^{-34} J
	472nm	6.3 x 10^{14} Hz	4.2 x 10^{-34} J
	473 nm	6.3 x 10^{14} Hz	4.2 x 10^{-34} J
	474nm	6.3 x 10^{14} Hz	4.2 x 10^{-34} J
	492nm	6.0 x 10^{14} Hz	4.2 x 10^{-34} J
Green	577nm	5.7 x 10^{14} Hz	3.4 x 10^{-34} J
	533nm	5.6 x 10^{14} Hz	3.7 x 10^{-34} J
	534nm	5.6 x 10^{14} Hz	3.7 x 10^{-34} J
	535 nm	5.6 x 10^{14} Hz	3.7 x 10^{-34} J
	492nm	5.6 x 10^{14} Hz	4.0 x 10^{-34} J
Yellow	597 nm	5.0 x 10^{14} Hz	3.3 x 10^{-34} J
	586nm	5.1 x 10^{14} Hz	3.4 x 10^{-34} J
	587nm	5.1 x 10^{14} Hz	3.3 x 10^{-34} J
	588 nm	5.1 x 10^{14} Hz	3.3 x 10^{-34} J
	577 nm	5.1 x 10^{14} Hz	3.4 x 10^{-34} J
Orange	622 nm	4.8 x 10^{14} Hz	3.2 x 10^{-34} J
	608nm	4.9 x 10^{14} Hz	3.2 x 10^{-34} J
	609 nm	4.9 x 10^{14} Hz	3.2 x 10^{-34} J
	610nm	4.9 x 10^{14} Hz	3.2 x 10^{-34} J
	597nm	5.0 x 10^{14} Hz	3.3 x 10^{-34} J
Red	770nm	3.8 x 10^{14} Hz	2.5 x 10^{-34} J
	690 nm	4.3 x 10^{14} Hz	2.8 x 10^{-34} J
	691nm	4.3 x 10^{14} Hz	2.8 x 10^{-34} J
	692nm	4.3 x 10^{14} Hz	2.8 x 10^{-34} J
	612 nm	4.9 x 10^{14} Hz	3.2 x 10^{-34} J

Lymann Series

UV	93.78 nm 94.97 nm 97.25 nm 102.58 nm 121.56 nm		

Paschen Series

IR	954.62nm 1004.98nm 1093.80nm 1281.81nm 1875.01nm		

Bracket Series

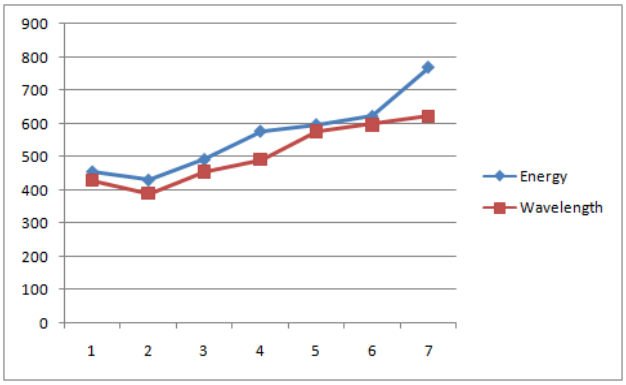
IR	2630.00 4050.00		

Bracket Series

IR	7400		

Table 4. Wavelengths, Frequencies, and Energies of different Colors

From the above table it is observed that oscillating frequency gyro magnetic ratio [5] lies within the range of 4.0 X 10^{14} Hz to 7.5 X 10^{14} Hz (shorter wavelength as the energy increases)is a microwave radiation and shows shifting towards red. Stars moving apart from earth in a relative strength 1 are a gravitational force which is a gravitational force which is responsible for binding the galaxies and planets. Therefore the Universe is expanding. Emission energy = absorption energy. As per Quantum theory[6] (e=hm)
Graph.



Graph 2: Energy and Wavelength

VII. HYPOTHETICAL CASES TO MEASURE THE KNOWN UNIVERSE (PRPOSED)

Looking into the Universe, it can be expressed in the form of cubical volume, at the initial stage let it be considered up to a volume and in the next stage let it be increased in Geometric Progression. Let it be continued up to seven consecutive cases, in each case it would be raised by 100 times. The cubical volume is represented with xyz co ordinate axes as the directional lines.

Here to refresh the last case-7 is relatively 1035 times greater than case–1. All Length s of the sides taken volume of cube and expressed in Light years.

Case-1 : in this case it can be considered the length of sides as (0.0015LY, 0.0015LY, 0.0015LY). Equaling of area= 0.0000003375 LY. Result: It is enough to replace our total solar system.

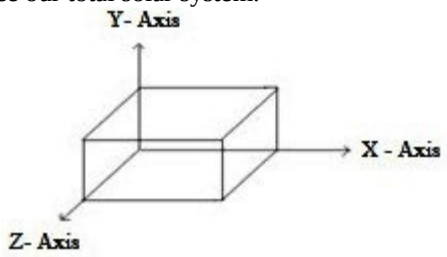


Fig.2: Case 1 – An Area length of Solar System

Case-2: in this case it can be considered the length of sides as (1.5LY,1.5LY,1.5LY). Equaling of area= 3.375 LY. Result: It is enough to replace our total solar system and along with Oortz cloud (Asteroid Belt)

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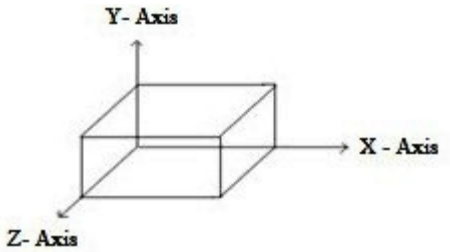

Fig.3: Case 2 – An Area length of Oortz Cloud

Case-3 : in this case it can be considered the length of sides as (150LY, 150LY, 150LY). Equaling of area= 3375000 LY. Result: It is enough to replace all the surrounding stars

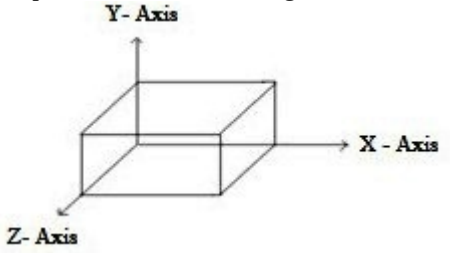

Fig.4: Case 3 – An Area length to replace all stars

Case-4: in this case it can be considered the length of sides as (15,000LY, 15,000LY, 15,000LY). Equaling of area= 337500000 LY. Result: It is enough to replace all the surrounding stars and it's surrounded stars

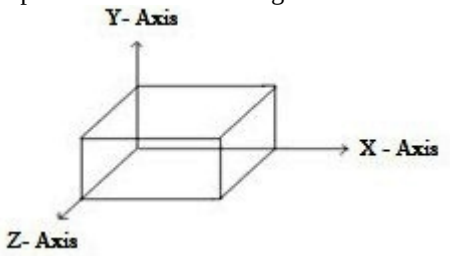

Fig.5: Case 4 – An Area length for all surrounding stars and it's surrounded stars

Case-5: in this case it can be considered the length of sides as (1,500,000LY, 1,500,000LY, 1,500,000LY). Equaling of area= 3375x 10^{15}LY. Result: It is enough to replace Magilanic cloud and nearest galaxies along with clusters.

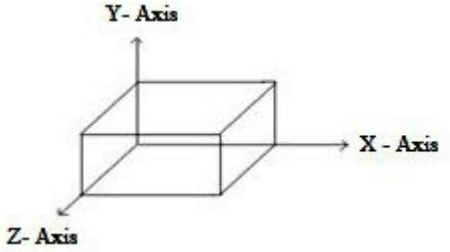

Fig.6: Case 5 – An Area length to replace Magilanic cloud and nearest galaxies along with clusters

Case-6: in this case it can be considered the length of sides as (150 m LY, 150 m LY, 150mLY). Equaling of area = 3375 m LY. Result: It is enough to replace All the galaxies of Capricorn , cancer ad Virgo clusters.

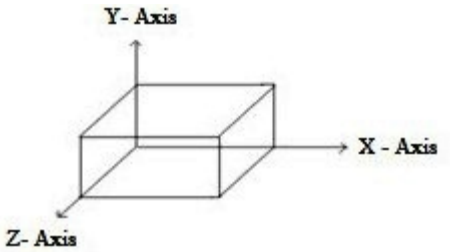

Fig.7: Case 6 – An Area length to replace All the galaxies of Capricorn , cancer ad Virgo clusters.

Case-7 : in this case it can be considered the length of sides as (15,000mLY,15,000mLY, 15,000mLY). Equaling of area = 3375,000 m LY. Result: It is enough to replace all the known galaxies with clusters and super clusters, nova's, super novas

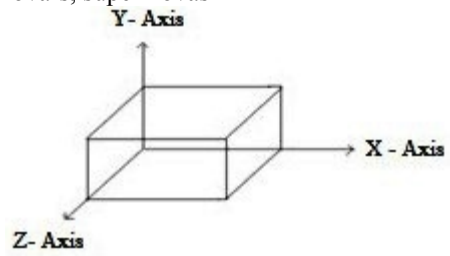

Fig.8: Case 6O – An Area length to replace all the known galaxies with clusters and super clusters, nova's, super novas.

VIII. CALCULATING AMOUNT OF FLUX DIVERGING FROM AN ASSUMED VOLUME (PROPOSED)

As since it is considered 7 different stages, in each stage if A represents the speed of electromagnetic radiation ,then div A represents the rate of flow of electromagnetic radiation at that point. If div A is positive the radiation is spreading over or pervading.

The point itself can be thought as a source of electromagnetic radiation.

If div A is negative either the radiation entering into that point and leaving from that point are same. It means without any change the light is passing through that point.

Using the gauss divergence theorem as a the theorem "The surface integral of the normal component of vector A taken over a closed surface S is equal to the volume integral of the divergence of vector A over the volume V enclosed by the surface S [7]"

The surface S is a closed surface, which is an arbitrary shape upon in a vector field. Let this surface encloses a volume V. Let it be assumed the complete volume to be dividing into a very large number of cubical volume elements adjoining to each other. Let it be considered a small cubical volume element and let divA be represented the amount of flux diverging per unit volume area.

The flux diverging from the element of volume dv, will be divAdv. Then the total flux coming out of the entire volume is ∭divAdv [8].

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Let it be considered a small element of area ds on the surface 'n', representing the unit vector down the normal to the area ds. Out ward drawn normal on a surface is taken as positive. If field vector A and outward normal n^ are at an angle σ then the component of A along n^ is Acosθ =A n^. The flux of A through the surface [9] of the element ds is (n^.A)=Ads. Therefore it can be defined the flux as the product of normal component of vector surface area.

So the total flux through the entire surface is given by $\iint_S Ads$. It should be equal to the total flux diverging from the whole volume V enclosed by the surface S is given by $\iint_S Ads = \iiint div\ Adv$ Hence the verification for the Gauss Theorem.

Let the function A=xi+yj+zk

S is the surface of a cube bounded by the points. According to the Gauss theorem,

$$\iint_S nAds = \iiint div\ Adv$$

→div A dv =σ/σx * i*σ/σy *zk

=Σσ/σx*i

$= x^2/2 * i^2$

$= x^2/2 *(+1)$

$= \Sigma(0.0015)^2/2$

$=(0.0015)^2/2-(0.0015)^2/2+(0.0015)^2/2$

$=1/2(0.0015)^2$

$=1/2(0.0000225)$

=0.0000112.5

S is the surface of a cube bounded by the points.

According to the gauss theorem

$\iint nAds = \iiint div\ Adv$

S

$$\iiint_V (div\ A)\ dv = \iint_S \vec{A}\,\vec{ds}$$

$=\Sigma\ 1/2\int x^{2+1}/2+1$ (as since $x^{n+1}/n+1$)

$=\Sigma x^3/6 \rightarrow \Sigma 1/2(x^3/3)$

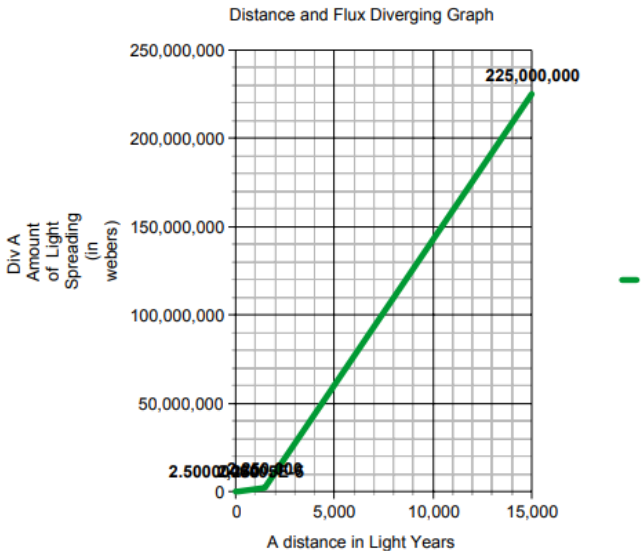
$=1/2[x^3 - y^3 + z3]$

$\iint \vec{A}\,\vec{ds}$ = 0.00003375 is the amount of flux diverging from the given volume.

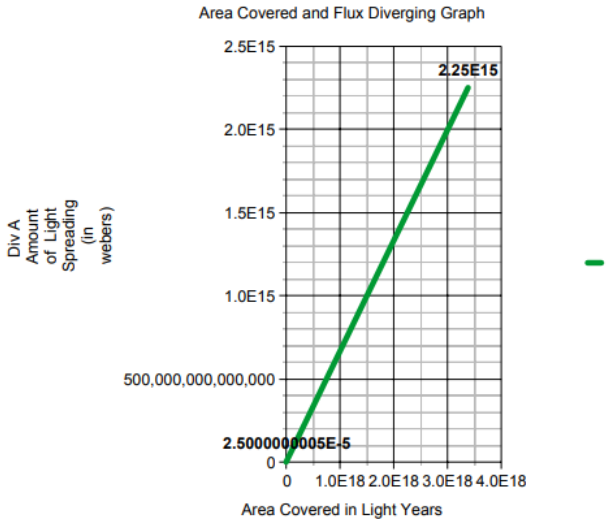
Following the same procedure the below table is obtained

Color	A distance (in Light Years)	Div A Amount of Light Spreading (in webers)	Ads (Surface Integral)-(Area Covered in Light Years)
1	0.0015	0.000025	0.00003375
2	1.5	2.25	3.375
3	150	2250	3375
4	1500	2250000	3375×10^6
5	15,000	225000000	33.75×10^9
6	150 000000	22500000000	3375×10^{12}
7	1500 000000	2250000000000000	3375×10^{15}

Table 5. Spreading of Light in to the known Universe



Graph. 3. Distance and Flux Diverging Graph



Graph. 4. Distance and Flux Diverging Graph

IX. CONCLUSION

From the available sources and the analysis on that it is clear that energy is conserved. With the help of a hypothetical experiment, effect of electromagnetic radiation on the magnetic field of nucleons is measured. As since the universe is expanding, a hypothetical measurable units are considered and the amount of flux diverging from each unit is estimated. This flux is spread in farer skies. Cosmos can be identified as a system of symmetrical unity.

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Dr.Hasan worked at NASA Headquarters as a Visiting Senior Scientist/IPA from 1994-1999, and as a civil servant from 1999 until now, a total of about 25 years.

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