

# A dialogue on fifth dimension, empty-space

Prashant Chauhan

Chauhan P, A Dialogue on Fifth Dimension, Empty-Space. J Mod Appl Phys. 2022; 5(2):1-8.

## ABSTRACT

Gravity and space-time are related because gravity, or more precisely, a gravitational wave, is the only possibility for empty space around a mass, and empty space is accountable for an object's mass. Although a gravitational wave is a ripple in space-time, it is also true that space-time is the outcome of a web of gravitational waves, therefore it is more proper to refer to space-time as gravitational-space-time, and its common name is empty-space. The kaushal constant (K) is the smallest unit of this web of gravitational waves (or empty space).

Gravity is the outcome of a force of attraction between two adjacent kaushals of adjacent planes at a relative point in gravitational-space-time, which is why it's called a web of gravity. The narrower your gravity web (or less relative gravity) and hence the faster you move through time, the slower you move through space, and vice versa. This study uses the idea of special connectivity to extend the general theory of relativity in five dimensions, with the fifth dimension being gravitational waves, gravity, or empty space.

**Key Words:** *Gravitational-space-time; Gravitational waves; Gravitational force; Theory of special connectivity*

## INTRODUCTION

The theory of special connectivity argues that every mass, from an atom to a black hole, is a web of gravitational waves, the lowest unit of which is the kaushal constant, which is obtained from the fact that gravitational waves' energy is always quantized. This gravitational web begins at an object's centre of gravity and finishes as a cause for that object's gravity. The Kaushal constant, abbreviated as K, is defined as [1,2]:

$$K = \frac{mGh}{ga^2} \quad (1)$$

$$K = \frac{ma^2}{t} \quad (2)$$

$$K = \sqrt{Qma} \quad (3)$$

Where m denotes mass, G denotes gravitational constant, h denotes plank's constant, g denotes gravitational acceleration, a denotes radius, t denotes time, and Q denotes heat. Angular momentum is the name given to the Kaushal constant.

### Postulates of special connectivity

Postulate 1: Whenever a mass, no matter how large or tiny, moves in gravitational-space-time, it emits gravitational waves in the direction

of motion, which are resisted by the effective surrounding gravitational waves.

Postulate 2: Gravitational waves always originate from a mass's centre of gravity.

Postulate 3: Light is a particle that uses gravitational waves to travel [3, 4].

Gravitational waves travel in a straight line, according to Postulate 4.

Postulate 4: Gravitational waves can be regarded as a web of pure energy formed by mass, and mass can be seen as a web of pure energy created by gravity.

Postulate 5: When two gravitational waves collide, a portion of their quantized energy is transformed into dust. In addition, gravitational wave energy is always quantified in terms of its angular momentum, which is known as the kaushal constant.

Postulate 6: When two or more masses came in physical contact, they lose their distinct identities and begin to behave as a unified mass entity.

### Kaushal Constant

Gravitational waves are prevalent in both circumstances because the angular momentum of space-time creates mass and the angular momentum of mass creates gravity.

Let's have a look at a visual illustration of this universal constant. Let's look at our solar system as an example. Because the earth is tilted at an angle of 23.4 degrees with respect to the sun, and because

Department of Physics, Teerthanker Mahaveer University, Moradabad, India.

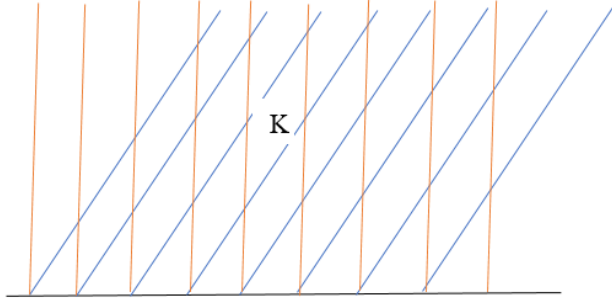
Correspondence: Prashant Chauhan, Department of Physics, Teerthanker Mahaveer University, Moradabad, India. e-mail Prashant.34411@tmu.ac.in

Received: - 26 February, 2022, Manuscript No. PULJMAP-22-4379; Editor assigned: - 28 February, 2022, Pre-QC No. PULJMAP-22-4379; Reviewed: - 15 March, 2022, QC No. PULJMAP-22-4379; Revised: - 18 March, 2022, Manuscript No. PULJMAP-22-4379; Published: - 25 March, 2022, DOI. 10.37532.2022.5.1



This open-access article is distributed under the terms of the Creative Commons Attribution Non-Commercial License (CC BY-NC) (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits reuse, distribution and reproduction of the article, provided that the original work is properly cited and the reuse is restricted to noncommercial purposes. For commercial reuse, contact [reprints@pulsus.com](mailto:reprints@pulsus.com)

the effective surrounding gravitational waves are emanating from the sun at an angle of 0 degrees, according to postulate 1, the earth must be emitting gravitational waves. If we simply talk about a plane, we'll end up with a growing web of quadrilaterals that can be approximated as a parallelogram over a short distance, as seen in figure 1 [1].



**Figure 1:** For the purpose of understanding, a flat base is considered, blue lines denotes gravitational waves radiated by earth at 23.4 degree and orange lines denotes gravitational waves radiated by sun at 0 degree. These series of quadrilaterals are known as Kaushal constant and since earth is round and hence these quadrilaterals will be of increasing length as we move away from earth and it is quite evident that time starts to flow faster as we move away from earth and this being the sole reason for the observed phenomenon.

The Kaushal constant is relative; for example, the earth's Kaushal constant is owing to the sun. It can be visualised in 3D using figure 1 by treating each of these quadrilaterals as a separate quantity in space with a specific angular momentum. This constant can be thought of as a mixture of space, time, and gravity, and it is a whole new dimension with the potential to complete our knowledge of the universe. Because gravity and space-time are relative, the Kaushal constant can be calculated in a relative sense [5].

**QUANTUM MECHANICS**

The breakdown of the wave function shortly after the measurement is the most significant component of quantum physics. One simple question that raises doubts about the reality of quantum mechanics as a whole is: Will the wave function break down if a dog performs a measurement instead of a human? This forced question is answered affirmatively by special connectivity, which may be tested empirically using Young's double-slit experiment [6].

Another important aspect of the double-slit experiment was highlighted in 2018 [3], which stated that if the slits are tilted at a 23.4 degree angle with respect to the incident polarised photons/electrons, no interference pattern appears on the screen and only two dots appear, as predicted by classical mechanics or as seen after wave function breakdown.

**ELECTROMAGNETIC WAVES**

Electromagnetic waves are a type of gravitational wave that is distinct from others. Let's use special connectivity formulas to solve electromagnetic wave equations.

**Electric Field**

In terms of the kaushal constant, charge is defined as:

$$q = \sqrt{\frac{K}{R}} \tag{4}$$

The kaushal constant is K, and the resistance is R. Coulomb's law [7] can be used to define an electric field:

$$E = \frac{1}{4\pi\epsilon_0} \frac{\sqrt{k}}{\sqrt{Rr^2}} \tag{5}$$

Where r is the distance between two charges.

Also, using equation 2  $\sqrt{K}$  can be defined as:

$$\sqrt{k} = \sqrt{\frac{m(x^2 + y^2 + z^2)}{t}} \tag{6}$$

As  $a = xi + yj + zk$

$$|a| = \sqrt{x^2 + y^2 + z^2} \tag{7}$$

Using equations 6 and 7 in 5, we can arrive to the following:

$$E = \frac{1}{4\pi\epsilon_0} \frac{1}{r^2} \sqrt{\frac{m(x^2 + y^2 + z^2)}{Rt}} \tag{8}$$

The equation for motion in an electric field [8] is as follows:

$$\nabla^2 E - \frac{1}{c^2} \frac{\partial^2 E}{\partial t^2} = 0 \tag{9}$$

Using equation 8:

$$\nabla^2 E = \frac{1}{4\pi\epsilon_0} \frac{1}{r^2} \sqrt{\frac{m}{Rt}} \left( \frac{(x^2 + y^2 + Z^2)^2 + 3}{\sqrt{x^2 + y^2 + Z^2}} \right) \tag{10}$$

And  $\frac{\partial^2 E}{\partial t^2} = \frac{1}{4\pi\epsilon_0} \frac{1}{r^2} \sqrt{\frac{m(x^2 + y^2 + Z^2)}{R}} \frac{3}{4\sqrt{t^3}}$  (11)

Using 10 and 11 in 9, we get:

$$a = \frac{3}{2} i$$

Using equations 1 and 2, the value of radius in terms of imaginary numbers denotes the natural existence of antimatter or backward flow of time, or both.

**Magnetic Field**

Using special connectivity, the magnetic field is generated as follows:

$$B = \frac{\mu}{2\pi} \sqrt{x^2 + y^2 + Z^2} \sqrt{\frac{m}{Rt^3}} \tag{12}$$

I, on the other hand, is defined as:

$$I = \frac{k}{ma^2} \sqrt{\frac{k}{R}} \tag{13}$$

## Chauhan

The equation for motion in a magnetic field [9,10] is as follows:

$$\nabla^2 B - \frac{1}{c^2} \frac{\partial^2 B}{\partial t^2} = 0 \quad (14)$$

Hence:

$$\nabla^2 B = \frac{\mu}{2\pi} \sqrt{\frac{m}{Rt^3}} \left( \frac{3}{\sqrt{x^2 + y^2 + Z^2}} - \frac{(x^2 + y^2 + Z^2)^2}{\sqrt{(x^2 + y^2 + Z^2)^3}} \right) \quad (15)$$

$$\text{Also, } \frac{\partial^2 B}{\partial t^2} = \frac{\mu}{2\pi r} \sqrt{\frac{m(x^2 + y^2 + Z^2)}{R}} \frac{15}{4\sqrt{t^7}} \quad (16)$$

Using equations 15 and 16 in 14, we get:

$$K = \frac{15 ma^2}{8 t} \quad (17)$$

The absence of magnetic monopoles suggests that postulate 1 of special connectivity is true. The gravitational wave propagation direction is determined by the direction of the magnetic field. It's worth noting that an EM wave is the consequence of a charge interacting with gravitational waves, hence light can be classified as an electromagnetic wave. Understanding the lovely triad of gravitational waves, light, and electromagnetic waves is important for future technology development.

If we use the preceding equations to calculate the cross product of electric and magnetic fields, we get a required constant of  $8\pi^2 a^5$ , which is comparable to fifteen times the volume of a five-dimensional sphere.

## CLASSICAL MECHANICS

Let's have a look at Hamiltonian and Lagrangian mechanics first:

### Hamiltonian and Lagrangian

Because the Hamiltonian in special connectivity is zero, the equation of motion in LaGrange Mechanics is:

$$L = T - V$$

$$\frac{d}{dt} \left( \frac{\partial L}{\partial a} \right) = \frac{\partial L}{\partial a} \quad (18)$$

Lagrangian is defined as,

$$L = \frac{k^2}{ma^2} \quad (19)$$

From special connectivity:

$$a = \sqrt{\frac{kt}{m}} \quad (20)$$

$$\dot{a} = \frac{1}{2} \sqrt{\frac{m}{kt}} \frac{k}{m} \quad (21)$$

Rearranging equation 21:

$$\frac{k}{m} = 2\dot{a} \sqrt{\frac{kt}{m}} \quad (22)$$

Equation 19 can be written as:

$$L = \frac{2\dot{a}K}{ma^2} \sqrt{\frac{kt}{m}} \quad (23)$$

$$\text{Hence, } \frac{\partial L}{\partial a} = \frac{-4\dot{a}K}{ma^3} \sqrt{\frac{kt}{m}} \quad (24)$$

$$\text{And, } \frac{\partial L}{\partial \dot{a}} = \frac{2K}{ma^2} \sqrt{\frac{kt}{m}} \quad (25)$$

Using equations 24 and 25 in equation 18, we get:

$$K = \frac{ma^2}{t}$$

which is equation number 2. Equation 18 is also satisfied by special connectivity.

### Newton's Laws of Motion

The first law of motion [11], i.e. the law of inertia, is viewed from a new perspective in postulate one of special connectivity. Let's look at the second law of motion:

$$F = ma \quad (26)$$

The equation for acceleration in special connectivity is:

$$\ddot{a} = -\frac{1}{4t^2} \sqrt{\frac{kt}{m}} \quad (27)$$

Using equation 27 in 26 as a guide, we can arrive at the following:

$$F = -\frac{k^2}{4ma^3} \quad (28)$$

The formula for gravitational forces in special connectivity is:

$$F = -\frac{k^2}{ma^3} \quad (29)$$

As a result, equation 28 becomes:

$$F = -\frac{F}{4} \quad (30)$$

This is a crucial result that indicates that every action has an opposite reaction, which may or may not be equal. In the realm of electrodynamics, similar observations are made.

## SPECIAL RELATIVITY

Time dilation and length contraction are two aspects of special relativity [12]. A new frame of reference is introduced *via* special connectivity, in which each mass is identified by a web of gravitational waves. Let's take a look at time dilation and length contraction one at a time:

### Length Contraction

It is defined by the formula:

**Chauhan P.**

$$x' = \frac{\chi - \nu t}{\gamma} \quad (31)$$

$$\text{where } \gamma = \sqrt{1 - \frac{\nu^2}{c^2}} \quad (32)$$

$$\text{In special connectivity, } x = \sqrt{\frac{kt}{m}}$$

$$\text{And velocity, } \nu = \frac{k}{ma}$$

$$\text{And time, } t = \frac{ma^2}{K}$$

Using the above information in equation 31, we get:

$$k' = \frac{k}{\gamma^2} \quad (33)$$

### TIME DILATION

Time dilation is defined by the formula:

$$t' = \frac{t - \frac{\nu x}{c^2}}{\gamma} \quad (34)$$

$$\text{In special connectivity, time is defined as: } t = \frac{ma^2}{K}$$

Using the above equation in equation 34, we get:

$$k' = \frac{\gamma k}{\left(1 - \frac{x}{a}\right)} \quad (35)$$

Equation 33 and 35 must be equal, hence on equating equation 33 and 35, we get:

$$\gamma^2 = \frac{\left(1 - \frac{x}{a}\right)}{\gamma}$$

Putting the value of  $\gamma^2$  in equation 33, we get equation 35, hence: Equations 33 and 35 yield the identical conclusion, demonstrating that gravity, space, and time are all various manifestations of the same gravitational wave. There is a mass periphery when  $x=a$ . Mass can be identified as a point of energy when  $x<a$ . Mass can be identified as a point of gravity when  $x>a$ .

Which is more permanent, light or darkness? This is a simple inquiry that establishes the existence of the fifth dimension. Nature's eternal features include darkness and so this web of empty-space crystals with angular momentum. The next part defines the mathematical equations that can be used to generalize this fifth dimension.

### GENERAL RELATIVITY

Gravity can also be seen as a field phenomenon [13]. Line element in special connectivity is given by:

$$ds^2 = dx^2 + dy^2 + dz^2 - \frac{kt}{m} \quad (36)$$

A point in space can be described by the coordinates (x, y, z, t, K), where K denotes space. Equation 36 can be written using tensor [14] as:

$$ds^2 = (dx^1)^2 + (dx^2)^2 + (dx^3)^2 - (dx^4 dx^5) \quad (37)$$

$$\text{Also, as: } ds^2 = g_{uv} dx^u dx^v \quad (u, v = 1, 2, 3, 4, 5)$$

Where  $g_{uv}$  is a fundamental tensor and  $dx^u, dx^v$  are covariant vectors. It is defined as:

$$g_{uv} = \frac{\partial x^j}{\partial \bar{x}^u} \frac{\partial x^k}{\partial \bar{x}^v} g_{jk} \quad (38)$$

Using equations 36, 37 and 38, fundamental tensor ( $g_{uv}$ ) for vacuum is defined as:

$$\begin{aligned} x &= \bar{x}^2 & x^1 &= x = \bar{x}^1 \\ y &= \bar{x}^3 & x^1 &= y = \bar{x}^2 \\ z &= \bar{x}^4 & x^1 &= z = \bar{x}^3 \end{aligned}$$

$$t = i \frac{ma^2}{k} = i \frac{m(x^2 + y^2 + z^2)}{k} \quad x^4 = t = \bar{x}^4$$

$$k = i \frac{a^2}{t} = i \frac{(x^2 + y^2 + z^2)}{t} \quad x^5 = k = \bar{x}^5$$

Hence coefficient becomes:

$$g_{11} = 4x^2 - \frac{m^2 4x^2}{k^2} - \frac{4x^2}{t^2}$$

$$g_{12} = -\frac{m^2 4xy}{k^2} - \frac{4xy}{t^2}$$

$$g_{13} = -\frac{m^2 4xz}{k^2} - \frac{4xz}{t^2}$$

$$g_{14} = \frac{2x(x^2 + y^2 + z^2)}{t^3}$$

$$g_{15} = \frac{m^2 2x(x^2 + y^2 + z^2)}{k^3}$$

$$g_{21} = -\frac{m^2 4xy}{k^2} - \frac{4xy}{t^2}$$

$$g_{22} = 4y^2 - \frac{m^2 4y^2}{k^2} - \frac{4y^2}{t^2}$$

$$g_{23} = -\frac{m^2 4yz}{k^2} - \frac{4yz}{t^2}$$

$$g_{24} = \frac{2y(x^2 + y^2 + z^2)}{t^3}$$

$$g_{25} = \frac{m^2 2y(x^2 + y^2 + z^2)}{k^3}$$

$$g_{31} = \frac{m^2 4zx}{k^2} - \frac{4zx}{t^2}$$

$$g_{32} = \frac{m^2 4zy}{k^2} - \frac{4z^2}{t^2}$$

$$g_{33} = 4z^2 - \frac{m^2 4z^2}{k^2} - \frac{4z^2}{t^2}$$

$$g_{34} = \frac{2z(x^2 + y^2 + z^2)}{t^3}$$

$$g_{35} = \frac{m^2 2z(x^2 + y^2 + z^2)}{k^3}$$

$$g_{41} = \frac{2x(x^2 + y^2 + z^2)}{t^3}$$

$$g_{42} = \frac{2y(x^2 + y^2 + z^2)}{t^3}$$

$$g_{43} = \frac{2z(x^2 + y^2 + z^2)}{t^3}$$

$$g_{44} = -\frac{(x^2 + y^2 + z^2)^2}{t^4}$$

$$g_{45} = 0$$

$$g_{51} = \frac{m^2 2x(x^2 + y^2 + z^2)}{k^3}$$

$$g_{52} = \frac{m^2 2y(x^2 + y^2 + z^2)}{k^3}$$

$$g_{53} = \frac{m^2 2z(x^2 + y^2 + z^2)}{k^3}$$

$$g_{54} = 0$$

$$g_{55} = \frac{m^2 (x^2 + y^2 + z^2)^2}{k^4}$$

Hence, we can see that  $g_{uv}$  is symmetric and  $g_{uv}$  can also be written as:

$$g_{uv} = \left(\frac{m}{kt}\right)^2 g_{uv} \tag{39}$$

According to Newtonian theory of gravitation [15]:

$$\nabla^2 \phi = 4\pi G \rho \tag{40}$$

Where  $\Phi$  is gravitational potential,  $\rho$  is the density of matter and  $G$  is gravitational constant. Equation 40 is generalised into tensor form and is given by:

$$R_{uv} - \frac{1}{2} g_{uv} R = -8\pi T_{uv} \tag{41}$$

Where  $R_{uv}$  is Ricci tensor,  $R = g^{uv} R_{uv}$ ,  $g_{uv}$  is the fundamental tensor and

$T_{uv}$  is the material-energy tensor. Now let us examine Ricci and material-energy tensor.

Ricci tensor is defined as:

$$R_{uv} = \frac{\partial \log \sqrt{g}}{\partial x^u \partial x^v} - \frac{\partial}{\partial x^\lambda} \Gamma_{uv}^\lambda + \Gamma_{uv}^\alpha \Gamma_{\alpha v}^\lambda - \Gamma_{uv}^\alpha \Gamma_{\alpha v}^\lambda \tag{42}$$

$$\sqrt{g} = \frac{8xyz(x^2 + y^2 + z^2)}{k^2 t^2} \tag{43}$$

Where  $u, v = 1, 2, 3, 4, 5$

On solving, Ricci tensor in special connectivity is defined by the coefficients:

$$\begin{aligned} R_{11} &= \frac{2}{x^2} \\ R_{12} &= \frac{1}{xy} \\ R_{13} &= \frac{1}{xz} \\ R_{14} &= \frac{-2}{xt} \\ R_{15} &= -\frac{2}{xk} \\ R_{21} &= \frac{1}{yx} \\ R_{22} &= \frac{2}{y^2} \\ R_{23} &= \frac{1}{yz} \\ R_{24} &= \frac{-2}{yt} \\ R_{25} &= \frac{-2}{yk} \end{aligned}$$

$$R_{31} = \frac{1}{zx}$$

$$R_{32} = \frac{1}{zy}$$

$$R_{33} = \frac{2}{z^2}$$

$$R_{34} = -\frac{2}{zt}$$

$$R_{35} = -\frac{2}{zk}$$

$$R_{41} = -\frac{2}{xt}$$

$$R_{42} = -\frac{2}{yt}$$

$$R_{43} = -\frac{2}{zt}$$

$$R_{44} = \frac{3}{t^2}$$

$$R_{45} = \frac{4}{tk}$$

$$R_{51} = -\frac{2}{kx}$$

$$R_{52} = -\frac{2}{ky}$$

$$R_{53} = -\frac{2}{kz}$$

$$R_{54} = \frac{4}{tk}$$

$$R_{55} = \frac{5}{k^2}$$

The material-energy tensor in terms of special connectivity:

$$T^{uv} = \rho \frac{dx^u}{dt} \frac{dx^v}{dt} + \frac{\rho p^2}{\alpha^2 - 1} \frac{dx^u}{dk} \frac{dx^v}{dk} - \frac{E}{a} \quad (44)$$

Where  $\rho$  is the coordinate density of the matter,  $p$  is momentum,  $a$  is radius,  $K$  is kaushal constant and  $E$  is energy.

Hence, considering  $u, v, w$  as the components of velocity,  $T_{uv}$  is defined as:

$$T_{11} = -\rho u^2 - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{12} = -\rho uv - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{13} = -\rho uw - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{14} = -i\rho u - \frac{\rho p}{E(a^2 - 1)} + \frac{E}{a}$$

$$T_{15} = -\rho u E - \frac{i\rho p}{m(a^2 - 1)} + \frac{E}{a}$$

$$T_{21} = -\rho uv - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{22} = -\rho v^2 - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{23} = -\rho vw - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{24} = -i\rho v - \frac{\rho p}{E(a^2 - 1)} + \frac{E}{a}$$

$$T_{25} = -\rho v E - \frac{i\rho p}{m(a^2 - 1)} + \frac{E}{a}$$

$$T_{31} = -\rho uw - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{32} = -\rho vw - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{33} = -\rho w^2 - \frac{\rho}{a^2 - 1} + \frac{E}{a}$$

$$T_{34} = -i\rho w - \frac{\rho p}{E(a^2 - 1)} + \frac{E}{a}$$

$$T_{35} = -\rho w E - \frac{i\rho p}{m(a^2 - 1)} + \frac{E}{a}$$

$$T_{41} = -i\rho u - \frac{\rho p}{E(a^2 - 1)} + \frac{E}{a}$$

$$T_{42} = -i\rho v - \frac{\rho p}{E(a^2 - 1)} + \frac{E}{a}$$

$$T_{43} = -i\rho w - \frac{\rho p}{E(a^2 - 1)} + \frac{E}{a}$$

$$T_{44} = \rho - \frac{\rho p^2}{E^2(a^2 - 1)} + \frac{E}{a}$$

$$T_{45} = -i\rho E - \frac{i\rho p^2}{Em(a^2 - 1)} + \frac{E}{a}$$

$$T_{51} = -\rho u E - \frac{i\rho p}{m(a^2 - 1)} + \frac{E}{a}$$

$$T_{52} = -\rho v E - \frac{i\rho p}{m(a^2 - 1)} + \frac{E}{a}$$

$$T_{53} = -\rho w E - \frac{i\rho p}{m(a^2 - 1)} + \frac{E}{a}$$

$$T_{54} = -i\rho E - \frac{i\rho p^2}{Em(a^2 - 1)} + \frac{E}{a}$$

$$T_{55} = -\rho E^2 - \frac{\rho p^2}{m^2(a^2 - 1)} + \frac{E}{a}$$

$T_{uv}$  can also be written as :

$$T_{uv} = T_{ij} + \frac{E}{a} g_{uv} \tag{45}$$

Field equation in special connectivity is given as:

Using equation 41 along with Einstein field equation [13], we get.

$$R_{uv} \left[ 1 - \frac{\delta_u^v}{2} \right] + \Lambda g_{uv} = -8\pi T_{uv} \tag{46}$$

Equation 46 is partially correct and hence using equations 39, 41 and 45, we get:

$$R_{uv} \left[ 1 - \frac{\delta_u^v}{2} \right] + \left( \frac{m}{kt} \right)^2 g_{uv} = -8\pi T_{uv} - 8\pi \frac{E}{a} g_{uv} \tag{47}$$

Comparing L.H.S. of equation 47 and 46, we get:

$$R_{uv} \left[ 1 - \frac{\delta_u^v}{2} \right] + \left( \frac{1}{a^4} \right) g_{uv} = -8\pi T_{uv} - 4\pi F g_{uv} \tag{48}$$

Where F is the force of gravity given by the formula:

$$F = \frac{k^2}{ma^3} \tag{49}$$

After simplifying, equation 48 will be reduced to:

$$R_{uv} \left[ 1 - \frac{\delta_u^v}{2} \right] + g_{uv} \left[ \frac{1}{a^4} + 4\pi F \right] = -8\pi T_{uv} \tag{50}$$

Comparing L.H.S. of equation 47 and 46, we get:

$$\text{Cosmological constant, } \Lambda = \left( \frac{m}{kt} \right)^2 = \frac{1}{a^4} \tag{51}$$

Where a is the radius and K is kaushal constant.

**RESULTS AND DISCUSSIONS**

In a nutshell, the notion of special connectivity states that 1kg plus 1kg will only become 2kg when they are in physical contact, and that until they are in physical contact, the individual 1kgs will lose their importance. Also, the kaushal constant corresponds to empty space or gravity, and we may argue that gravity is always relative to the space-time continuum, and it should be called gravitational-space-time based on the aforementioned extension of general relativity to five dimensions. The study of the 25 field equations listed above will be

provided in forthcoming versions of this publication.

The discussion of general relativity in five dimensions in terms of equations is explained in detail. Furthermore, everything is made up of strings at the most fundamental level, according to string theory. In specific circumstances, these strings are known as gravitational waves, and the existence of a fifth dimension can give rise to any number of dimensions depending on one's perspective.

The following is a breakdown of the above mathematical equations, as well as an explanation of the proposed model of our universe:

**Universe in Special Connectivity** Hyperbolic universe is predicted by special connectivity theory. In special connectivity, the line element is given by:

$$ds^2 = dx^2 + dy^2 + dz^2 - \frac{kt}{m}$$

It can be written as:  $s^2 = m^2 a^2$ , which is an equation of hyperbola.

As a result, the universe is a sphere (not so perfect!) with its spherical inverted parallel replica, making it an equation of hyperbola, implying that there must be an ultra-massive black hole at its centre. Furthermore, there are only three advanced civilizations in this universe with us, and the cosmos is finite.

**CONCLUSION**

The fifth dimension is empty space, which is the foundation for all of the other four dimensions. The Kaushal constant is the smallest unit of empty space and can only be perceived in relation to other units of empty space. The theory of special connectivity is a unifying theory that may be applied to all areas of science and technology, both current and future. It states that mass is a pure web of energy or consciousness formed by mass, and gravity is a pure web of energy created by mass. The sole reason why no fringe shift was noticed in Michelson and Morley's experiment [16] is that every mass on Earth is made up of the same fabric of empty space. Many future technologies, like mass teleportation, time video players, superconductivity at room temperature, and others, will be enabled by an understanding of this fifth dimension. Furthermore, in the recent past, a gravitational wave background that pervades all space-time was discovered, providing strong evidence for the presence of a fifth dimension. Last but not least, gravitational waves are the universe's primary source of energy, frequency, and vibration, and every wave we are aware of today is a variant of gravitational waves.

**CONFLICT OF INTEREST**

This manuscript unfolds the fifth dimension of empty space (or gravity) by involving a new universal constant.

**REFERENCES**

1. Prashant. Kaushal and Gravity. J Phys Astron. 2018; 6(1):133
2. Chauhan, P. (2018). Theory of Special Connectivity (Ser. 1). Mold: Sch. Press
3. Prashant. Wave-Particle Duality? J Phys Astron. 2018; 6(1):142

4. Prashant, An Experiment on Wave-Particle Duality. Newest Updates Phys Sci Res.2021;3:115-117.
5. Prashant. (2018). Gravity, probability and consciousness. Int. J. Res. Granthaalayah.2018; 6(11):454-460.
6. Jaeger G. Double-Slit Experiment (or Two-Slit Experiment). In Compendium Quantum Phys.2009;174-178.
7. Coulomb law (electrostatics). Van Nostrand's Sci Encycl. 2005.
8. Nastase H. Introduction to quantum field theory. Camb Univ Press.2019.
9. Blakely RJ. Potential theory in gravity and magnetic applications. Camb Univ Press. 1996.
10. Lagrangian mechanics. An Introduction to Lagrangian Mechanics.2008:35-71.
11. Newton's laws of motion. (n.d.). The Encyclopedia of Astronomy and Astrophysics
12. Alladi K, ed. Alladi Diary, The: Memoirs of Alladi Ramakrishnan. World Sci 2005.
13. Gupta, K. (2019). Relativistic Mechanics Meerut, Uttar Pradesh: Pragati Prakashan.
14. Nelson E. Tensor analysis. Princet. Univ. Pres. 2016
15. Remi H. An Introduction to Relativistic Gravitation. Camb. Univ. Press 1999:1-40
16. Raith W. Michelson-Morley-Experiment. Physik Online. 2018.