Predicting the Gravitational Constant from the New Physics of a Rotating Universe

1.0 Abstract

Granular Spacetime Sphere Theory predicts that our universe is a sphere made of spheres. This theory is taken down to its roots and shows that the universe starts with what could be labeled a quasi-point particle and builds it up to a multiverse. The theory can now be used to predict a gravitational constant of $G = 6.674379282299 * 10^{-11} \frac{m^3}{kg * s^2}$

This is in line with the low sigma measurements of $6.674184 * 10^{-11} \frac{m^3}{kg * s^2}$ [6]

$6.674484 * 10^{-11} \frac{m^3}{kg * s^2}$ [6] $6.67433 * 10^{-11} \frac{m^3}{kg * s^2}$ [7] and the UZur-06 measurement of

$6.67425 * 10^{-11} \frac{m^3}{kg * s^2}$

This value obtained in this paper affirms the values shown in the Nature Article "Measurements of the gravitational constant using two independent methods" and it affirms that there really was no big bang and the universe is actually rotating and the size is limited by the outer edge not being able to move faster than the speed of light.

2.0 Calculations

If one starts with a point and call this point one, it would in a sense, be a zero-dimensional spot. If this spot were spinning it would have an angular momentum. One finds that the angular momentum in quantum physics to be as follows.

$$|S| = \hbar (s(s+1))^{0.5} \qquad [1]$$

If we square both sides of the Equation 1, we end up with

$$s_2 = \frac{|S|^2}{\hbar^2} = s(s+1) \qquad [2]$$

If we say that the original value of s is 1, which is our point there is no spin that can be associated with one point since there is no reference to a difference. Therefor spin only makes sense when there are two particles. Note that two particles make a line and thus we have a one dimensional object.

When s=1 then $\frac{|S|^2}{\hbar^2} = 2$ a dimensionless number. If this value of $\frac{|S|^2}{\hbar^2} = 2 = s_2$ and we substitute

$$s_3 = \frac{|S_2|^2}{\hbar^2} = s_2(s_2+1) \quad [3]$$

this new value of s_2 into equation 2 then we obtain a new value of $s_3 = \frac{|S_2|^2}{\hbar^2} = 6$ this value of $s_3 = 6$ could be a 6-sided ring with a particle in the middle for a total of 7 particles and therefore be a unit two-dimensional object.

If we take this equation 2 and substitute the value of $s_3 = 6$

$$s_4 = \frac{|S_3|^2}{\hbar^2} = s_3(s_3+1) \quad [4]$$

this new value of s_3 into equation 2 then we obtain a new value of $s_4 = \frac{|S_3|^2}{\hbar^2} = 42$ this value of $s_4 = 42$ could be a 42-piece exterior to a cuboctahedron packed spheres with a total of 55 spheres or particles and therefore be a unit three-dimensional object.

At this point it appears that there is, in a sense, a phase change. Instead of continuing to be packed perfectly these points are packed into a spherical structure being constrained by a gravitational field, yet wanting to be packed efficiently as cuboctahedrons.

It was shown in “The Holographic Principle and How can the Particles and Universe be Modeled as a Hollow Sphere”[1] that when packing spheres into a spherical structure that the amount of discontinuities made would be equivalent to the amount of spheres on the outer layer of the sphere. The equation for this.

$$s_d = 4\pi(n+1)n \quad [5]$$

Which is very close to the equation 1 for the angular spin momentum squared of a quantum particle. This seems unlikely to be a coincidence.

It was found in “The Answer to the Universe, the Life and Everything is Still 42” [2]

That the values of outer layers of the next layers of the construction of the universe is as follows.

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$S_{10} = 1.8654150388941*10^{81}$ Number of Planck Spheres on the outside of the Hubble Sphere Universe

$A = \pi*(1.3195909052*10^{-15})^2$ Cross Section of the Planck Sphere, which is the Compton Wavelength of the Neutron squared and multiplied by pi.

$P = \frac{\pi}{12^{.5}} =$ The packing density of a single layer of spheres

$\frac{M_p}{M_n} = 0.99862347844 =$ The mass ratio of the proton to the neutron

$T =$ Travel Distance from the center of the Universe to the outside of the Universe in meters.

$E = (\pi^2 + \pi^2 + 1^2)^{0.5} = 4.554032147688 =$ Expansion ratio of the next increment of a sphere.

$$T = E\frac{3}{\pi}\left[\frac{\frac{M_p}{M_n} S_{10} * A}{P4\pi}\right]^{0.5} = 13.745514 billionlightyears \qquad [6]$$

The actual radius of the universe would then be

$$\frac{T}{4.554032147688} = 3.0183173*10^9 billionlightyears.$$

$$N\left[\frac{E}{pi}\right]^2\left[\frac{M_p}{M_n}\left(\frac{12^{.5}}{pi}\right)\right] = (X^2 + X) \qquad [7]$$

Explanation for equation 7, Please see appendix A.

Explanation for equation 6, Please see appendix B.

$$N\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{0.5}}{pi}\right)\right] = (X^2 + X)$$

$$N\left[2.3138487212054\right] = (X^2 + X) \qquad [8]$$

We can put this equation into the form of Equation 2 where $N = \frac{|S_4|^2}{\hbar^2}$

$$s_5\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=s_4(s_4+1)$$

$$s_5\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=42(42+1)$$

$$s_5=780.517750987266$$

$$s_6\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=s_5(s_5+1)$$

$$s_6\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=780.517750987266(780.517750987266+1)$$

$$s_6=263625.046774636688$$

$$s_7\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=s_6(s_6+1)$$

$$s_7\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=263625.046774636688(263625.046774636688+1)$$

$$s_7=30035856828.08638$$

$$s_8\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=s_7(s_7+1)$$

$$s_8\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=30035856828.08638(30035856828.08638+1)$$

$$s_8=3.898926870886194*10^{20}$$

$$s_9\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=s_8(s_8+1)$$

$$s_9\left[\frac{4.554032147688}{pi}\right]^2\left[0.99862347844\left(\frac{12^{.5}}{pi}\right)\right]=3.898926870886194*10^{20}(3.898926870886194*10^{20}+1)$$

$$s_9 = 6.5698464230622286*10^{40}$$

$$s_{10}[\frac{4.554032147688}{pi}]^2[0.99862347844(\frac{12^{.5}}{pi})] = s_9(s_9+1)$$

$$s_{10}[\frac{4.554032147688}{pi}]^2[0.99862347844(\frac{12^{.5}}{pi})] = 6.5698464230622286*10^{40}(6.5698464230622286*10^{40}+1)$$

$$s_{10} = 1.8654150388941*10^{81}$$

From this value $s_9 = 6.5698464230622286*10^{40}$ we can determine the exact value of the gravitational constant. From the "Proton Electron Universe" [5] we found the following relationship, which is the amount of spheres on the outside of the Planck Sphere, which the author defines as the sphere that builds our universe and has the size of the Compton Wavelength of the Neutron. One issue is that we cannot measure the value of the Gravitational Constant accurately or because there are so many varied measurements it is difficult to figure out which method is correct for measuring the gravitational constant. In the exercise we substitute the value of $s_9 = 6.5698464230622286*10^{40}$ into the following equation.

$$N = S_9 = 6.5698464230622286*10^{40} = 2Mp\pi^3\frac{hc}{G(Mn)^3} \qquad [9]$$

Where $\frac{M_p}{M_n} = 0.99862347844 =$ Mass ratio of the proton to the neutron
Where $h = 6.62607004*10^{-34} =$ Planck's constant
Where $M_n = 1.674927471*10^{-27} =$ Mass of Neutron
Where $c = 299792458 =$ Speed of light

Solving for the gravitational constant, we obtain.

$$G = 6.674379282299*10^{-11}\frac{m^3}{kg*s^2}$$

3.0 Discussion

The value predicted for the gravitational constant in this paper is $G = 6.674379282299*10^{-11}\frac{m^3}{kg*s^2}$. These equations used to predict the gravitational constant seem to be the most accurate, and the first confirmation that the universe is spinning and that light is curved in space, probably like a spiral to the edge of the universe. The universe is much denser and smaller than originally thought. In other calculations for the levels of the universe, the value of $N = \frac{Mp - Me}{Mn}\frac{3^{.5}}{4}(X^2 + X)$ was used, but this appears to be in error. The real value is $N[\frac{E}{pi}]^2[\frac{M_p}{M_n}(\frac{12^{.5}}{pi})] = (X^2 + X)$ This was not discovered until realizing that the universe is spinning and not expanding and thus calculating an equilibrium density of the universe. New equations will need to be calculated for an equilibrium density of the spinning universe as the authors first attempt to calculate an equilibrium density was an approximation. The size of the universe is really controlled by the speed of light.

Appendix A - The explanation of equation 7

$$N[\frac{E}{\pi}]^2[\frac{M_p}{M_n}(\frac{12^{.5}}{\pi})] = (X^2 + X) \quad [7]$$

Explanation for N

In Sphere Theory each Sphere is made of spheres, so our level of the universe is proposed to be made of Planck Spheres, which are spheres with the Compton Wavelength of the Neutron. The value “N” is calculating, the amount, of spheres, on the outside of the next level. What we are calculating with the value N is the total amount of discontinuities in the sphere. In a sphere of value “X” for a radius, the amount of discontinuities turns out to be $4\pi(X^2 + X)$ This calculation is shown in “How can the Particles and Universe be Modeled as a Hollow Sphere” [8]

Explanation for the value E

$$E = (\pi^2 + \pi^2 + 1^2)^{0.5} = 4.554032147688 =$$

In a hollow sphere, when we are looking at putting on one additional units sphere layer, this additional expansion by a unit sphere will have 3 dimensions of expansion, it will expand pi units in two perpendicular directions and a value of on in the next layer. When one calculates the scalar change, it is the value of E. It is proposed that this limits the size of a universe. Since the outside of the universe, in sphere theory is spinning, the maximum radius would then be proportional to the speed of light divided by the value of E.

Explanation for the value of π in the denominator below the value of E

This value of π is similar to a calculation for Cherenkov radiation we are essentially adding up all of the energy of a spinning sphere and including the Lorentz factor. Since the discontinuity particles are distributed amongst the sphere, some are moving near the speed of light and some are moving hardly at all. The summation of all of these particles equals a ratio of π if there were no Lorentz factor involved. The equation for this is shown below. Note that since the discontinuities $x^2-(x-1)^2$ are less and less dense towards the edge of the universe, the Lorentz factor, although very large, contributes less than expected to the actual mass of the universe. Also note, that since the travel of light is a spiral the density of matter, at the edge of the universe, and since the Lorentz factor shrinks the appearance of distance, the density of matter appears much greater than it is.

$$\int_{-n}^{n} x/n \frac{(x/n)^2-((x-1)/n)^2}{(1-(x/n)^2)^{.5}}\,dx=\pi$$

Explanation for the value of $P=\frac{\pi}{12^{.5}}=$The packing density of a single layer of spheres.

In the explanation for equation 6, we find, that there are, a certain amount, of spheres, on the outside layer of spheres. These spheres cannot be packed to a 100 percent limit. The maximum efficiency for packing spheres in a single layer is the value of

$$P=\frac{\pi}{12^{.5}}$$

Explanation of $\frac{M_p}{M_n}$

When calculating the ratio of the mass of the proton to the neutron, in" An Electro Magnetic Resonance in 9 Dimensions that gives Mass Ratio of Proton to Neutron"[9], we found that it was from a relationship of Cherenkov Radiation to Bremsstrahlung radiation. When calculating the gravitational force and the electro magnetic force, in "Proton Electron Universe"[10]We found that charge is related to the ratio of the electron mass to the neutron mass and gravity was related to the proton to the neutron mass. In this exercise we are calculating the size of the layers of the universe which is related to gravity and it appears that the ratio of $\frac{M_p}{M_n}$ is important in limiting the size of the layers.

Explanation of $X^2 + X$

The value $X^2 + X$ is part of the angular spin momentum equation squared. It is also part of the equation for calculating the amount of discontinuities of a sphere.

Appendix B-Explanation of Equation 6

$$T = E\frac{3}{\pi}\left[\frac{\frac{M_p}{M_n} S_{10} * A}{P4\pi}\right]^{0.5} = 13.745514 billionlightyears \qquad [6]$$

Equation 6 is basically looking at how far light travels from the center of the universe to the edge of the universe. Looking at a spinning universe it look like light actually travels in a spiral from the center to the edge. Using Equation 7 we calculate a value of $s_{10} = 1.8654150388941*10^{81}$. This is the calculated amount, of Planck Spheres, on the outer layer of our universe. From this equation it is a simple volume calculation to calculate a travel distance to the outside of the universe.

Explanation of E

$$E = (\pi^2 + \pi^2 + 1^2)^{0.5} = 4.554032147688 =$$

In a hollow sphere, when we are looking at putting on one additional units sphere layer, this additional expansion by a unit sphere will have 3 dimensions of expansion, it will expand pi units in two perpendicular directions and a value of on in the next layer. When one calculates the scalar change, it is the value of E. It is proposed that this limits the size of a universe. Since the outside of the universe, in sphere theory is spinning, the maximum radius would then be proportional to the speed of light divided by the value of E.

Explanation for the value of 3 in the numerator, next to E.

It should be noted that for each particle, each neutron, each proton, each electron. They are all composed of 3 Planck Spheres for their mass. When calculating the area, the Compton wavelength for the neutron is multiplied by 3, in this equation the author chose to place the 3 outside of the parenthesis.

Explanation for the value π

Explanation for the value of π in the denominator below the value 3

This value of π is similar to a calculation for Cherenkov radiation we are essentially adding up all of the energy of a spinning sphere and including the Lorentz factor. Since the discontinuity particles are distributed amongst the sphere, some are moving near the speed of light and some are moving hardly at all. The summation of all of these particles equals a ratio of π if there were no Lorentz factor involved. The equation for this is shown below. Note that since the discontinuities $x^2-(x-1)^2$ are less and less dense towards the edge of the universe, the Lorentz factor, although very large, contributes less than expected to the actual mass of the universe. Also note, that since the travel of light is a spiral the density of matter, at the edge of the universe, and since the Lorentz factor shrinks the appearance of distance, the density of matter appears much greater than it is.

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Explanation of the value A

The value A is the square of the Neutron Compton Wavelength multiplied by the value of π. This is the area taken up by each Planck Sphere with the exception that the 3 is place outside of the parentheses, as explained about for the value of 3.

Explanation for the value of $P=\frac{\pi}{12^{.5}}=$The packing density of a single layer of spheres.

In the explanation for equation 6, we find, that there are, a certain amount, of spheres, on the outside layer of spheres. These spheres cannot be packed to a 100 percent limit. The maximum efficiency for packing spheres in a single layer is the value of

$$P=\frac{\pi}{12^{.5}}$$

Explanation of the value of 4π

The value of 4π is simply necessary for converting to a radius.

Explanation for the distance in the following equation.

$$T = E\frac{3}{\pi}\left[\frac{\frac{M_p}{M_n}S_{10} * A}{P4\pi}\right]^{0.5} = 13.745514 billion light years$$

The value of $13.74551*10^9$ is simply the conversion from the value equation 6 calculates in meters, to the value in light years.

References

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