Cosmic Inflation and Spinning Sphere Theory

Author Michael J. Sarnowski

Email: thilel@charter.net

Abstract: Cosmic inflation is part of the big bang theory that states that the universe expanded very rapidly at the beginning of the big bang. Spinning Sphere Theory is a steady state theory of the universe where matter is continually created at or near the center of the universe and destroyed at the edge of the universe. In Spinning Sphere Theory matter is created by absence defects caused by the packing mechanism of two different ways of packing spheres. This mechanism causes the density of the universe to be many magnitudes much denser at the center of the universe. The density of the universe falls off very quickly near the center of the universe. The math for this is very simple. Is this rapid falling off of density, causing the observations labeled as “Cosmic Inflation”?

1.0 Calculations

Cosmic inflation is part of the big bang theory that states that the universe expanded very rapidly at the beginning of the big bang. Spinning Sphere Theory is a steady state theory of the universe where matter is continually created at or near the center of the universe and destroyed at the edge of the universe. In Spinning Sphere Theory matter is created by absence defects caused by the packing mechanism of two different ways of packing spheres. This mechanism causes the density of the universe to be many magnitudes much denser at the center of the universe. The density of the universe falls off very quickly near the center of the universe. The math for this is very simple. Is this rapid falling off of density, causing the observations labeled as “Cosmic Inflation”?

In Spinning Sphere Theory, there are four perfect states. One sphere, a point, is equivalent to a zero-dimensional particle. Two spheres, a string, is equivalent to a one-dimensional particle. Six spheres, a ring, is equivalent to a two-dimensional particle. 42 spheres, the second layer of a cuboctahedron, is equivalent to a three-dimensional particle. The next layer is a sphere packed with spheres, and it is the first object with absence defects, it is the first layer with time, it is the first layer with opposing rotations. In spinning sphere theory, the layers are built up as follows.

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

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

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 $s_3 = 6$

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

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.

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

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.

$S_{10} = 1.8654150388941 * 10^{81}$ 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.

$$T = E\frac{3}{\pi}\left[\frac{\frac{M_p}{M_n} S_{10} * A}{P 4\pi}\right]^{0.5} = 13.745514 billionlightyears \qquad [6]$$

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 $N=\frac{|S_4|^2}{\hbar^2}$

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

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

$$s_5=780.517750987266$$

So we find the first structure in the universe, with time, is S_{5}, where there are 780.517750987266 spheres on the outside of the sphere. Obviously, we cannot have a fraction of spheres, so some of the layers of S5 have 780 some have 781. This is part of the asymmetry in the universe. The number S5=780 is the number of defects in the sphere, and it is the number of spheres on the surface of the object we label as S5. Below is an image of a sphere made of spheres.


(2)

The universe is a sphere made of spheres. The smallest group of spheres, which includes time, is the S5 sphere, with 780 spheres on the surface. From this point the density of the universe continues to decrease. The universe density decreases in a

linear fashion. As shown in "Predicting the Gravitational Constant from the New Physics of Spinning Sphere Theory", in each sphere made of spheres, the whole mass of particles is due to defects. The particles of protons, neutrons, electrons, are all made of particles on the order of 10^-15 meters. It is the S9 layer that is what constitutes the proton neutron electron, etc. We can see the various layers up to S9 in Appendix C. This gives an approximate density of 10^17 kg/m^3 like the neutron star. If one multiplies the various layers of the construction of the universe
One has density of neutron star*S_8*S_7*S_6*S_5=Density of Universe at the center of the universe or within protons and other particles. There are actually only very tiny points where the universe or particles have this density.
Density at the center of the universe is approximately 2.4 *10^56 kg/m^3. This density is actually is wrapped up in lower levels of the universe that are not accessible to us, in very tiny points.   It is not that there was a huge inflation to lower density, it is that the very tiniest points within particles are very dense.
It is argued that one of the reasons that the universe could not be steady state, is that there are no nearby quasars. It is also possible that galaxies are lined up in a way where the nearby quasars jets are not pointed in earth's direction.

Appendix A - The explanation of equation 7

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

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.

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

I should explain what my hypothetical universe is. I have a rotating universe that is spherical made of spheres. I assume the hypothetical universe is rotating on 3 axes so that each point a fraction of the total distance from the center would have equal velocities. So a point that was 60 percent from the center would have a velocity of 0.6 times the speed of light At a hypothetical center, the velocity is zero, at the edge the velocity is the speed of light. As I pack each layer of spheres I get a certain amount of defects. The amount of defects at each layer would be $n^2-(n-1)^2$ For simplicity I took out the value 4π so in actuality one sphere would actually be 4π spheres. The mass of particles at the center have a rest mass the ones at any point would have a mass of the rest mass times the Lorentz factor. So let’s take a look at the equation.

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

x/n represents a fraction of the speed of light

$((x/n)^2-((x-1)/n)^2)$ the fraction of the amount of defects at fraction from the distance from the center of the universe

$1/(1-(x/n)^2)^{.}5$ represents the Lorentz factor at that point in the universe

The value of the equation would give me the relativistic mass divided by the rest mass or the ratio relativistic energy total for the universe vs the rest mass total of the universe.

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

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

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.

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

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.

Appendix C

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.

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

$$s_5 = 780.517750987266$$

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

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

$$s_6 = 263625.046774636688$$

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

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

$$s_7 = 30035856828.08638$$

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

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

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

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

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

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

4.0 References

1) http://vixra.org/pdf/1601.0103v1.pdf
2) https://www.pinterest.com/pin/438256607458854719/