

## 1.0 Abstract

In Spinning Sphere Theory, the universe is spinning and the universe is a sphere made of spheres. When packing spheres in a spherical shape many imperfections or discontinuities are formed. These are postulated to be the basis for matter. These discontinuities end up being close to the surface area of the sphere which is calculated in “The Holographic Principle and How can the Particles and Universe be Modeled as a Hollow Sphere”[6] When one calculates the total mass and the Lorentz mass from a rotating the universe the total mass ends up being pi times the rest mass. This Lorentz mass is postulated to be equivalent to the dark energy that is postulated in an expanding universe, but in the Spinning Sphere Theory, the universe is static, in the sense that it is not expanding. The dark energy fraction equal to the Lorentz fraction= $(\pi-1)/\pi*100$  percent=68.169 percent.

Dark Energy seems to be mysterious. The Universe, it is said is made mainly of Baryonic Matter, Dark Matter, and Dark Energy. There are also the neutrinos and radiation. There is the critical density calculated from General Relativity, The ‘critical density’ is the average density of matter required for the Universe to *just* halt its expansion, but only after an infinite time. A Universe with the critical density is said to be flat.(1). Assuming that the standard model of cosmology is correct, the best current measurements indicate that dark energy contributes 68.3 % of the total energy in the present-day observable universe. The mass–energy of dark matter and ordinary (baryonic) matter contribute 26.8% and 4.9%, respectively, and other components such as neutrinos and photons contribute a very small amount. (2, 3, 4, 5). This paper proposes and shows evidence for a spherical universe of finite size. Calculations

## 2.0 Calculations

Calculation of the Dark Energy fraction=Lorentz fraction of Mass of the universe.

It was found in “The Holographic Principle and How can the Particles and Universe be Modeled as a Hollow Sphere” [6] This calculation is shown below for reference.

$$\text{Equation 1a } Sd = \int_0^x 4\pi * (x+1)^2 - 4\pi * x^2 dx \quad [1]$$

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$$\text{Equation 1b } Sd = 4\pi i(x^2 + x) \quad [2]$$

It was found that the total mass of the universe, was  $\pi$  times the rest mass. This calculation was shown in "Predicting the Gravitational Constant from the New Physics of a Rotating Universe"[7]

$$\int_n^{-n} \frac{1}{n} \frac{x^2 - (x-1)^2}{(1 - (x/n)^2)^5} dx = \pi \quad [3]$$

The equation of the ratio of the Lorentz mass of the Spinning Sphere Universe vs the Total Rest Mass and Lorentz mass of the universe is an astoundingly simple equation.

$$\text{Dark Energy fraction} = \text{Lorentz Mass fraction} = \frac{\pi - 1}{\pi} * 100 = 68.169 \text{ percent} \quad [4]$$

### 3.0 Discussion

As seen in equation 3, the author approximates the dark energy contribution to be 68.193 percent. This agrees well with the Planck Mission of 68.3 percent. There obviously could be other factors involved in this dark energy calculation which may be more refined in the future. This paper seems to confirm that the universe could be spherical in shape, which would add to evidence for Sphere Theory.

The author has worked on this issue before, and since finding a method to calculate the Gravitational Constant and finding equation 3

$$\int_n^{-n} \frac{1}{n} \frac{x^2 - (x-1)^2}{(1 - (x/n)^2)^5} dx = \pi \quad [3]$$

That there really is no Dark Energy, rather there is a rest mass of the universe and then the calculation of the Lorentz mass and Rest mass of a spinning universe.

#### 4.0 References

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