1.0 Abstract

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 that is rotating on 3 axes where the Dark Energy is 68.2 percent of the universe and is simply the kinetic energy from the matter contained in the universe as the universe rotates on 3 axes.

2.0 Calculations

The Critical Density of the Universe is as follows.

$$\rho = \frac{3H^2}{8\pi G} \qquad [1]$$

Where $\rho = criticaldensity$, $H = Hubbleconstant$, $G = gravitationalconstant$

If we assume that matter is distributed relatively evenly across the universe. We assume that at each point in the universe that the universe is rotating on a axis. Each point of mass having momentum of $\frac{2*\pi*c*m*r}{3}$ on each axis that it spins. The universe is assumed to be spinning on 3 perpendicular axes and therefore the total momentum of each point would then be $2*\pi*c*m*r$. If we integrate this value from a radius of 0 to 1 which would be from the center of the universe to the edge of the universe then the momentum of spinning of three axes of the universe is as follows.

Momentum of rotating universe = $P = \int_0^1 2*\pi*c*m*rdr = \pi cm$ [2]

So we see that the rest momentum of each particle is $c*m$ and the average momentum due to the rotation of the universe on three axes is $\pi c*m$ so the ratio of the universes rotational energy of particles and the rest energy of particles is as follows. Which the author proposes is the dark energy of the universe

Dark energy ratio of the universe $= 100*\frac{\pi c^2*m}{\pi c^2*m + c^2*m} = 68.2\%$ [3]

3.0 Discussion

As seen in equation 3, the author approximates the dark energy contribution to be 68.2 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 would be spherical in shape, which would add to evidence for Sphere Theory.

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It should be mentioned that the rotational velocities actually exceed the speed of light. However, in the case of the rotational velocities, these particles are not traveling through space, but rather are traveling with space, which may be what scientists believe to be the expansion of the universe. The author is becoming less inclined to believe in expansion of the universe.

4.0 References

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