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 dark energy may be 66.37 % of the total energy/mass of the universe.

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 an axis. We can calculate the angular energy. The equation for angular energy of a sphere is as follows.

$\frac{2}{5} * \frac{1}{2} * r^2 * m\omega^2$ where r is the radius the radius of the universe, which is 1, m is the mass, and $\omega = 2 * \pi * f$ and f is the frequency. Thus the angular energy of the universe is

Angular Energy of Universe = $mc^2 \frac{\pi^2}{5}$

The rest mass of the universe = mc^2

The author proposes that the Angular energy of the universe is the dark energy of the universe. Or rather, this angular energy may put off a variety of graviton, that could be distributed throughout the universe that may be different from the gravitons put out from the rest mass of matter. Thus the Dark Energy ratio can be calculated as follows.

Dark energy ratio of the universe = $100 * \frac{\pi^2 \frac{c^2 * m}{5}}{\pi^2 \frac{c^2 * m}{5} + c^2 * m} = \frac{1.9739}{1.9739 + 1} = 66.37\%$ [3]

3.0 Discussion

As seen in equation 3, the author approximates the dark energy contribution to be 66.37 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.

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It should be mentioned that some of 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 believes that is possible that the gravitons that come from the kinetic energy may be different than the gravitons from the rest mass and that the these may be the quintessence that is hypothesized about.

The value of 66.37 percent for dark energy is lower than that predicted from the Planck Mission value of 68.3 percent. The author believe that more matter and dark matter will be found and the models for the universe will probably be modified as more data comes in for the Hubble constant and future missions to measure the universe. This prediction of 66.37 percent, if it is confirmed by future data, may indicate that Sphere Theory should be given more acceptance.

4.0 References

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