

# Repulsive Gravity, Gravity, and Dark Energy

thiele@charter.net

## 1.0 Abstract

Science fiction has always wondered if there is repulsive gravity. If there is a positive and negative to elementary charge, why can't there be positive and negative gravity. If the strong force and weak force are limited by distance, why not gravity. This paper proposes gravity is limited in its action distance. After this action distance is exceeded, then repulsive gravity takes over. This is the force that causes universe to look like it is expanding. This paper will propose that the limitations of gravity is about 18.93 million light years in radius. Islands of approximately 18.93 million light years in radius will form within the universe and then be pushed apart by repulsive gravity.

This paper's purpose is to propose a size limit to action distance of gravity. Later papers will analyze redshift, galaxy luminosities, surface brightness, and size, and determine if this repulsive gravity model correlates the information better than existing models. This model will also be used to try to model the non-linear Hubble Constant.

## 2.0 Calculations

In the paper "Proton Electron Universe"[1] we found that the following equation, was able to calculate a value of "N", which is the amount of spheres, on the outside of the Planck Sphere, which are the spheres that build elementary particles and the universe. The Equation is

$$N = \frac{M_p \pi^3 hc}{M_n GM_n^2} \quad [1]$$

The value of  $\frac{M_p}{M_n}$  is the fraction dominated by antimatter.

The radius of the gravity dominated area is calculated as follows.

$$\text{Gravity dominated radius} = \left(1 - \frac{M_p}{M_n}\right) * 13750 \text{ million light years} = 18.93 \text{ million light years}$$

## 3.0 Discussion

From observation, the largest gravitationally bound objects are galaxy clusters. They typically have a diameter size of 2-10 Megaparsecs.[2] 10 megaparsecs is about 32.6 million light years. It is possible that the size limit of these galaxy clusters is due to a maximum action distance of gravity of 37.86 million light years. After that, repulsive gravity takes over and pushes galaxy clusters away from each other. It was proposed in "Continuous Creation and Destruction of Matter and Energy in a Spinning Sphere Universe",[3] that as matter reaches the edge of the universe, it is subjected to very high forces and is like a continual big bang, and then past the universe it disappears into nothing, since matter is an absence defect. New matter is created toward the

# Repulsive Gravity, Gravity, and Dark Energy

thielel@charter.net

center of the universe due to absence defects being created as matter moves toward the edge of the universe. As matter is continually pushed toward the edge of the universe it is accelerated. All of the intragalactic and intergalactic matter that was hidden creates new vortices slash galaxies, giving the appearance that the universe is homogeneous.

## 4.0 References

- 1.) <http://vixra.org/pdf/1804.0033v1.pdf>
2. [https://en.wikipedia.org/wiki/Galaxy\\_cluster](https://en.wikipedia.org/wiki/Galaxy_cluster)
3. <http://vixra.org/pdf/1911.0528v2.pdf>