1.0 Abstract

Most everyone is aware off gravity, some are aware of the gravitational constant, less are aware of the strong force, and virtually no one knows about the strong gravitational constant or what it would be. The author proposes that the same format can be used for the strong force that is used for the gravitational constant. The calculations will be shown here.

Sphere Theory is a theory that the universe is made of spheres that are made of spheres perhaps indefinitely. It is the discontinuities in the spheres that give rise to imperfection and make the universe interesting. The equations, so far have shown the forces from elementary charge, weak charge, and gravity. This paper shows the building of the equation for the unit strong force. The unit strong force is the force of one strong force carrier at its closest interaction. The unit strong force has a very short distance of action as the attraction loops back on itself very quickly due to its extreme strength that basically pulls apart space and makes new quarks. The equation developed herein is only for the force at its closest interaction, which is strong enough to hold the protons and neutrons and other nucleons together within the nucleus of the atom.

2.0 Calculations

The author now uses his equations for calculating the Peak Strong Force using the Equation of F=ma

Modeling Elementary Strong Force Gravity

In this section we work on developing the following equation. We propose that the strong force may be very similar to gravity. Also, it is possible that the strong force deals with neutron pairs. Therefore the calculation for the Compton Radius and Compton Frequency is calculated with 2 neutron masses.

Compton Radius of Neutron

$$r = \frac{h}{c2Mn} \qquad [1]$$

Compton Frequency of Neutron

$$f = \frac{2Mnc^2}{h} \qquad [2]$$

where pi or π is pi or π
where h is plancks constant
where c is speed of light
where Me is the mass of the electron
where Mn is the mass of the neutron
where Mp is the mass of the proton
and G_F is the strong gravitational constant

It is proposed that mass, forces, charge etc., comes from imperfect packing of spheres. If one has a basket of spheres normally if they were perfectly packed it could result in a cuboctahedron structure. However, if there was a force that pulled all of these spheres toward a center, then the spheres would also try to pack in concentric shells. It can be shown mathematically that the amount of defects that would occur would be equal to the amount of spheres on the final layer of packing and the effective radius for calculating momentum is 0.25r. So a sphere with radius 100 spheres would have total defects of $4*pi*100^2$. Therefore, if the universe or a particle or deeper dimension yet, is actually a packing of spheres there would be two opposing packing techniques. One to pack everything perfectly in a cuboctahedron structure, the other to pack spheres concentrically in shells. These two different opposing packing techniques would give rise to forces, mass etc. This paper intends to show how an equation could be formed to model gravity and charge using the mass of the neutron, Planck's constant, strong gravitational constant, and the speed of light. This section works on the strong force.

We start with the traditional equation for the force of gravity and then modify it to obtain an elementary strong gravity.

$$F = \frac{G_S M1M2}{r^2} \qquad [3]$$

A number of questions arise.

1. Is not F=ma? Is there some mass times acceleration that is equal to the strong gravitational force? If one breaks down strong gravity into one tiny object that carries force is there a point at which that mass times acceleration, or more accurately quantum strong gravitational momentum pions, that is can be similar to the traditional equation for gravitational force.

2. Is there some elementary mass, just like there is an elementary charge where, at some discrete point, M1 and M2 would have a smallest value and are directly related to distance "r". Therefore the equation became modified to the following. In this model, the mass of the neutron, is proposed to be the mass "M".

$$ma = \frac{G_S MM}{r^2} \qquad [4]$$

One wonders if the strong force is directly related to a mass, perhaps one of the pion particle masses perhaps the $\pi^{\pm}$ particles.

$$M_{\pi^{\pm}} a = \frac{GMM}{r^2} \quad [5]$$

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What is the acceleration of, A square, a circle, a sphere, a spherical shell? A spherical shell works for both force of charge and force of gravity. When attempts to pack spheres concentrically around other spheres a certain amount of defect space is made in relation to perfect packing. It can be shown that this amount of defect space is equal to the outer layer of spheres. Therefor this is justification for using a hollow sphere when the actual geometry is not an actual hollow sphere. Therefor the equation for acceleration of a spherical shell is as follows.

The distribution of these discontinuities can be summed to be a spherical shell. This is shown in the paper "The Holographic Principle and How can the Particles and Universe be Modeled as a Hollow Sphere"(1)

$$a = \frac{2}{3} r (2\pi)^2 f^2 . \quad [6]$$

Then the equation evolved more to

$$M_{\pi^{\pm}} \frac{2}{3} r (2\pi)^2 f^2 = \frac{GMM}{r^2} \quad [7]$$

where r is a radius and f is frequency.

Then the equation evolved more to

$$M_{\pi^{\pm}} \frac{2}{3} r(2\pi)^2 f^2 = \frac{GMM}{4\pi r^2}$$ [8]

Propose that all masses and charges are divided by 3. Thus the equation becomes;

$$M_{\pi^{\pm}} 2r(2\pi)^2 f^2 = \frac{GMM}{4\pi r^2}$$ [9]

Propose that radii are different, depending which force they are experiencing. The rational for this is explained later in the discussion. It has to do with how the discontinuities are more concentrated at the center and the concentration of defects decreases inversely proportional to the radius. A radius of 10 would have approximately 20 percent defects, but a radius of 20 has only about 5 percent defects. To compensate for a large sphere the radii “r” are each divided by 4. Thus the equation becomes;

$$M_{\pi^{\pm}} 2r(\pi)^2 f^2 = \frac{GMM}{\pi r^2}$$ [10]

Substituting Equation 1 and 2 into 10

Assume that the strong force requires neutron pairs thus the Compton radius and Compton frequency are affected by a factor of two. This may or may not be the case as this is an exercise in trying to build a model to fit the data.

Compton Radius of Neutron Pair $$r = \frac{h}{c2Mn}$$ [1]

Compton Frequency of Neutron Pair $$f = \frac{2Mnc^2}{h}$$ [2]

where pi or π is pi or π constant
where h is plancks constant
where c is speed of light
where Me is the mass of the electron
where Mn is the mass of the neutron
where Mp is the mass of the proton
and G_s is the strong gravitational

This simplifies

$$G_S = \frac{M_{\pi^\pm} \pi^3 hc}{(Mn)^3} \quad = 3.26136908 \times 10^{29} \frac{kg}{ms^2} \qquad [13]$$

Which is $4.875 * 10^{39}$ times larger than the gravitational constant.

2.0 Discussion

We find that, if the strong force is modelled after Gravity using sphere theory that it reduces to the following equation for the strong gravitational force.

$$G_S = \frac{M_{\pi^\pm} \pi^3 hc}{(Mn)^3} \quad = 3.26136908 \times 10^{29} \frac{kg}{ms^2}$$

3.0 References

1. http://vixra.org/pdf/1601.0103v1.pdf