Fractality: The Cause of Gravity

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Abstract

Using equations from previous papers by the authors, the fractal nature of gravity is shown for a universal system, the Hydrogen atom, the solar system, the galaxy, etc... It is shown that for a system with matter there is always a gravity involved at the 'nodal points' of a perfected compression[1]. Furthermore, using equations derived by Dr. Martin Alexander Jones[2,3]. The acceleration due to gravity in a perfected compression is shown.

1 Perfected Compression Defined and Equation 12

A perfected compression was defined in footnote 1 to be "a superposition of waves or quantum wave-states added together in a fashion such

[1]Compressions, The Hydrogen Atom,and Phase Conjugation. Dan Winter, et. al. The General Science Journal. February 19, 2013.

[2]A Newton's Second Law Extension: A Semi-Classical Approach With DFT Implications. Martin Jones. The General Science Journal. November 7, 2018.

[3]A Note On Many-Body: Newton's Fifth Law. Martin Jones. The General Science Journal. November 22, 2018

as to synchronize their respective position and time". In that paper, we use the Klein-Gordon waves to show that the golden proportion times frequency perfects a compression, or maximizes constructive interference, when the $|A_n|^2$ is the Harmonic Series squared. Also in that paper, Equation twelve defines the position and momentum at specific nodes, or points of maximum constructive interference. We use x_n and change it to r_n for the purposes of keeping the notation in footnote 2 and 3.

First, equation 12 in footnote 1 is as follows, and next is a simple manipulation of equation 12 from footnote 2.

$$r_n p_n = n\pi\hbar + q\pi\hbar\phi^{n-q} \tag{1}$$

Where n and q are nodal quantum numbers for the points of maximum constructive interference. And m is mass for equation 3.

$$\mathbf{F_T} = \int \frac{\partial \mathbf{p}}{\partial t} \times d\mathbf{r} = \frac{\partial \mathbf{p}}{\partial t} \tag{2}$$

Equation 2 can be further broken down for a system with constant mass to be known as the mass-induced left hand side of the Many-Body Law in footnote 3, $\mathbf{F_T} = mr \times a$. And we get that equation with the RHS of equation 2:

$$p_n = m \int (r_n \times a_n) dt \tag{3}$$

Now plugging in equation 3 to equation 1 and rearranging and taking the derivative with respect to t we get,

$$mr_n \times a_n = -C_\phi \frac{v_n}{r_n^2} \tag{4}$$

Where C_ϕ is the RHS of equation 1, and v_n is the velocity of node n. This is interesting because it shows the new fractal gravitational

law for a many body system. If we set this equal to Newton's law of gravity for two bodies we can derive a new interesting formula for the gravitational constant, N_n, for each nodal number. Lets do this.

$$-N_n \frac{m_1 m_2}{r_n^2} = -C_\phi \frac{v_n}{r_n^2} \tag{5}$$

So we get,

$$N_n = C_\phi \frac{v_n}{m_1 m_2} \tag{6}$$

2 Conclusions

So we have derived new gravity law from the papers done by the authors. Also, we derive a new way to look at the Newton gravitational constant. Thanks to all involved.