Soliton Electrogravitational Test

by
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Dec. 22, 2007

The basic mechanism of electrogravitation as postulated on my website[1] requires that the total interaction involves a least quantum action of energy in local space to be conveyed via non-local space to a reaction, again in local space, involving a conjugate reaction, which is observable and thus may be described within a relativistic frame of reference.

However, the transit through non-local space is not observable and must occur at superluminal velocity. Thus electrogravitation by its defined mechanics must operate outside of the so-called light cone, This requires that gravity operates above the limiting velocity of light that is the speed limit for all electromagnetic radiation.

Therefore, one test is indeed worth a thousand expert opinions. To that end, I suggest that a test be accomplished that may yield the answer as to what the action speed of gravity is.

Recently, a paper[2] came to my attention that provides a technique for manipulating solitons in rings of a given energy and by perturbing the two dimensional holding lattice physically, the solitons could be forced to spin around the ring at a predetermined rate.

The test is simple. Generate two adjacent soliton rings of spin having parallel lattice planes and then jerk one of the planes. If this causes reaction of the soliton in the other plane, we have our answer as to the actual time of the interaction. The parallel lattice planes should be isolated electromagnetically from each other and the local environment.

The definition of a soliton is as follows[3]: "[MATH] A solution of a nonlinear differential equation that propagates with a characteristic constant shape. [PHYS] An isolated wave that propagates without dispersing its energy over larger and larger regions of space, and whose nature is such that two such objects emerge unchanged from a collision."

Notice the reference to the soliton being an object. That is, having a form of energy.

I consider the total action-reaction as occurring somewhat like the mechanics of a waveguide. The geometry of the waveguide in my conceptual view is circular and the boundaries are formed by the nature of the field that generates the least quantum action of energy change. This involves the sudden change of the A-vector connected with the energy that represents the soliton. This action is perpendicular to the phase wave that results from the action and thus is associated with the group wave at the very beginning of the action.

Phase waves and group waves apply to the macroscopic case of electromagnetic waves in a waveguide as well as for quantum particles wherein mass is canceled out in the algebra. For the electromagnetic waves in a waveguide, a book, Electronic Circuit Analysis",[4] states the case for the phase wave and group wave as: "For measuring standing waves in a

waveguide, it is the phase velocity which determines the distance between voltage maximum and minimum. For this reason, the wavelength measured in the guide will actually be greater than the wavelength in free space." The frequency related to both the phase wave and group wave is the same for both.

The relationship between the phase and group waves is:

$$V_c = \sqrt{V_p \cdot V_g} \qquad 1)$$

It is of interest that the equation[5] that relates the wavelength in the waveguide to the wavelength in free space looks very similar to the special relativistic expression, square root $(1-v^2/c^2)$.

$$\frac{\lambda_g}{\lambda} = \frac{1}{\sin(\theta)} = \frac{1}{\sqrt{1-\left(\frac{\lambda}{2 \cdot B}\right)^2}} \qquad 2)$$

For the expression 2 times B, B is the half the wavelength from side to side at the lowest possible frequency the waveguide can propagate a signal. The wave group velocity is then 90 degrees to the surface of the guide and thus the group velocity is very nearly zero while the phase velocity is very nearly infinite. The wavelength along the guide is the product of the phase velocity times the time related to the inverse of the frequency and thus is nearly infinite for an infinitely long waveguide.

The quantum expression of phase velocity related to group velocity is given by one of my university physics textbooks[6] as:

$$v_p = \frac{h}{m \cdot v} \cdot \frac{m \cdot c^2}{h} = \frac{c^2}{v} \qquad 3)$$

Quote: "In this equation, v is the velocity of the material particle, which we have seen must be less than the velocity of light, c." Unquote.[6] The velocity v may be termed the group velocity of the particle.

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Conclusion:

It is hoped that the test suggested above may be accomplished by the same persons who published the paper in reference 2 below. They already have the resources to accomplish this.

References:

1. http://www.electrogravity.com
2. http://www.electrogravity.com/Soliton/Steering_Solitons.pdf
3. Parker, Sybil P., McGraw-Hill Dictionary of Scientific And Technical Terms, Fifth Edition, copyright 1994, p. 1865.
4. Air force Manual Electronic Circuit Analysis, Number 52-8, volume 2, published 15 January, 1963, p. 11-15.

5. Ibid: p. 11-16.
6. Richards, James A., Sears, Francis Weston, Wehr, M. Russell, Zemansky, Mark W., Modern University Physics, copyright 1960 by the Addison-Wesley Publishing Company, Inc., second printing 1964, p. 832.