FOUNDATION REASONING OF ELECTROGRAVITATIONAL THEORY AND TESTS

Below is a reprint of a recent communication between myself and Mr. John Schnurer. It is reprinted here in the hope that it may answer similar questions that others may have.

Subj: Two jogs....Re: Site link
Date: 6/8/99 8:28:54 PM Pacific Daylight Time
From: herman@antioch-college.edu (John Schnurer)
To: Quark137@aol.com
CC: herman@college.antioch-college.edu (John Schnurer)

Dear Jerry,

I am still unclear.... Can you give me "two jogs" of exactly what
and how you thing does.. or how it works?

REPLY:
My approach is to duplicate what my theory of gravitational mechanism is and check for an interaction inline to that 'theoretical' gravitational mechanism.

In my theory, I first assume a least quantum current. This current may be in any direction at all. Next, due to the uncertainty principle, the current suddenly appears offset to the original current but in the same direction. This process continues in a right handed system fashion so that a quantum vector magnetic potential is circulating around its most probable location in quantum space. The vector action always points outwards from the most probable location, so it is a one-way action. All other remote systems are identical and are formed also by quantum current charges.

Imagine holding an arrow pointing outwards from your chest. Now move that arrow out to arms length on your right and slightly down 120 degrees from vertical but inline with the direction that it pointed from your chest outwards. Now do the same over your head and finally hold the arrow with your left hand at about 120 degrees from the vertical and again inline with the other two positions. What I describe is a trine with the arrow pointing always in the same direction normal to the three lines forming the trine. Note that if you were in the center of a box and looked at any corner, the edge lines appear as a trine if you did not have any depth perception. The edges however actually form a Cartesian coordinate system. Thus the concept of the cross product may be applied to explain why the gravitational action is always one of attraction.

In the flat 2 dimensional world of the right handed quantum action however, the action is that of a trine geometrically. The vector potential A exists in the absence of the magnetic B field that generates it and further, it is inline to the motion of the current causing the field. This was proven by the Aharonov-Bohm experiment and many other similar experiments since then.
--Jerry E. Bayles

Addendum 06-14-99:
Websters Collegiate Dictionary defines the word TRINE as, TRIAD. Also as: "being the favorable astrological aspect of two celestial bodies 120 degrees apart." Also, the word TRIAD is defined as, "A union or group of three: TRINITY." Also as: "a chord of three tones consisting of a root with its third and fifth and constituting the harmonic basis of tonal music."

Addendum 06-22-99:
If we consider that on a transmission line where there are voltage and current nodes that have a

maximum and a minimum, when the rate of change is zero, how is the quantum aspect affected? That is, Heisenberg's uncertainty principle states that if the momentum is nearly zero, then the position is almost totally uncertain. Then a nearly zero current implies a nearly zero charge velocity and thus nearly zero velocity charged particle having mass. This uncertainty spreads out at a distance that is proportional to the inverse of the particles velocity and is transverse to the particles motional direction. Then, in a losses perfect standing wave, the charged particle with nearly zero velocity may exert an influence via its field structure over a nearly infinite distance. The foregoing is a quantum effect that is transverse to the *vector magnetic potential* which acts inline with the motion of the charge and may also act over a nearly infinate distance. Finally, the electron and proton may have both modes of action occuring at the same time.

Also reprinted below is a copy of my discussion with Mr. Michael Wales concerning the permeability and permeability constants eo and uo. His email is: mwales@fervor.demon.co.uk (mwales@fervor).

Dear Michael,
I agree that the permittivity and permeability constants in the free space for ordinary electromagnetic waves are indeed constant. In fact as you are likely aware, the inverse of the product of eo and uo is the speed of light squared as was derived by Maxwell many years ago. My postulate concerning any variation in their value depends on special conditions that I outlined in my paper. This does not concern the free field but the outcome may instantly stretch across space to infinity.

The condition where I proposed that either eo or uo may be equivalent to zero arises when the reverse of an electromagnetic wave is formed. You (on your web site) state that mass may be the result of standing waves. I also came to this conclusion some years ago. Standing waves (in the sense of the electric and magnetic field components) have the B field and the E field separated by 90 degrees along the length of a transmission line in contrast to the electromagnetic free field wave where they are at 0 degrees along the direction of propagation, but 90 degrees spatially. Further, while the E field is maximum, the B field is zero magnitude for a standing wave and vis-versa. This is by reason that the length along a transmission line can be represented as time. Time is at the heart of everything since distance is equal to velocity times time. Therefore, when B associated with uo is maximum, E associated with eo is zero. Since E is zero, the term eo has no effective existence. Likewise, when B is zero, uo has no effective existence. Then either may be taken at some time to have no effective existence, but not both at the same time. Now since mass has the dimensional constant of C^2 which involves the inverse of the product of eo and uo, rest mass becomes a statistically average condition.

If a standing wave is mass, then having infinite potential as a result of either eo or uo being equivalent to zero at some time calls in the concept of the Dirac delta function. At zero time, it (the Dirac delta function) equals infinity in amplitude. At any time greater than zero time, it equals zero amplitude. For a particle, such as an electron, it may be what is called a weighted delta function. That is, capable of nearly infinite energy at nearly zero time. This would satisfy the quantum least action time and distance mechanism. The condition of a standing wave that is torus shaped but never meeting itself exactly is how I view the electron geometry. This would allow for the electron to have a prime number aspect that would not beat against itself until the end of time. By that, I mean that a spiral torus forming motion that does not quite close in on itself and eventually would do so only after an infinite time. Thus it has the capability of filling all of time and space given enough time to do so. This is also infinite potential. Bear in mind now that I am only considering one electron! When one allows for all of the possible electrons, (not to mention protons, etc.), then the energy is extremely large indeed. In my book, I calculate that amount for one electron as being very large.

I propose that the above mechanism may explain the results of the famous two-slit experiment wherein the electron appeared to go through both slits at the same time and interfere with itself on the other side. As time allows, the electron may appear transverse to its motion everywhere throughout space. With infinite potential, this is more of a probability than not. I am speaking of a non coupled field condition and of a singular electron.

In conclusion, In my paper ZEROTIME, I postulated that eo and uo may not have the same geometrical forming mechanics in a quantum standing wave space as it does in the free field space of an ordinary electromagnetic wave.

Also, you mentioned previously that the fine structure constant was not part of the electron? Please forgive me if this is not what you actually said. Anyway, if you calculate the rest mass energy of an electron by $Em = mC^2$ and then calculate the field energy of the electron via $Ef = (qo^2) / (4 \text{ pi } eo \text{ } Rc)$ at its surface using its Compton radius, you will find that the field energy is equal to its rest mass energy times alpha, the fine structure constant.

I also see the fine structure constant as an energy rate control whereby the so-called rest mass is converted to field energy. I postulate that the fine structure constant may be an irrational number that does not repeat and has no factor other than itself. This places it in the same category as pi or the natural number e. When it does repeat, we will likely be at the end of allowed time in this universe. Further, one of my physics references termed the fine structure constant as being ubiquitous to particle physics at nearly all energy levels, even the nuclear strong force level. Finally, the fine structure constant has been known for some time as the photon coupling constant. Then the particles in the particle 'zoo' that do have decay times may interfere with themselves and self-destruct into photons.
--Jerry E. Bayles. ---End of letter #1.

In a following letter I added to the above:

Dear Michael Wales,
Concerning the meaning of my recent letter to you where you said:

"It is the superposition of the fields(each traveling in a
different direction) that give rise to the maxima and nulls, and not
because of the properties of the medium. For instance you get an
identical situation(qualitatively) in a non free space medium in which
uo and eo are different from the free space values."

I was hoping for a deeper meaning or import to be taken of my statement:

  "I agree with you on this excepting for the last bit Since E is zero, the term eo has no effective existence. Likewise, when B is zero, uo has no effective existence. Then either may be taken at some time to have no effective existence,
but not both at the same time."

My meaning is hopefully more clear if I state that **<u>I see space as having no properties of itself concerning an intrinsic geometry that is definable by any parameters save those actions that are measurable in the fields that exist at the time of measurement.</u>** Therefore, eo and uo are constants that relate the charges or motions of charges to force so that the units of force or energy during measurement may be consistent. As Einstein pointed out, "there is no universal frame of reference concerning measurements of time and thus action." This implies that space is defined by the action of the field, such as the field that comprises the photon or electromagnetic wave. It is the photon that is our instrument of measurement and without it we have no way to measure action in our space save for blind force measurement. Again, the field defines space and thus action. Note that having photons as our action messengers limits our ability to perceive what is occurring since we always see action events from the past.

Then, in the absence of the electric or magnetic field, I again state that the terms eo and uo have no meaning. Therefore like the square root of the inverse of the product of eo and uo suggested that the velocity of electromagnetic propagation in the free space was the velocity of light, it is suggested that for the standing wave, the alternate absence of the fields containing the parameters eo and uo suggest that the velocity of propagation may be nearly limitless at those points. That continues to be my viewpoint concerning fields defining space.

Concerning your statement:

  "The Dirac delta function is a splendid mathematical concept but it lacks equal physical prowess. It is after all used to justify the point, structureless, electron, i.e., aided and abetted by the mathematical concept of superposition. The energy of the free electron (without rectilinear motion) is a physical constant and equal to m*c^2. It is neither approximately zero nor approximately infinite."

In the theoretical, terms such as infinity are possible. In the actual, they are not. I am reminded of one of Zeno's paradoxes where a runner theoretically takes each step as half of the one before and thus never reaches the finish line. Of course, we know that in the real world this is not possible. He will reach an actual limit of division that cannot be further divided. This limit is related directly to quantum mechanics. The Dirac delta function is a theoretical parameter, ...yes. However, there exists in electronics engineering the Impulse function that is the Dirac delta function in the limit where time = 0 but it is not used as such to provide real engineering solutions. It becomes a weighted delta function which deals with our real world. That is what I was referring to concerning the use of the Dirac delta function.

By the way, the concept of allowing c^2 to become infinite momentarily causes the relativistic aspects of the electron to be flattened, so that v^2/c^2 = 0. Then m' = mo. This would explain why the electron has a 'fixed' rest mass.

In conclusion, until I can hang a picture on the 'fabric of space,' I will continue to hold the view that it does not exist as a physically meaningful concept in the absence of a defining field. It is therefore defined only by the fields and actions that we observe. That includes curved, bent, twisted or even flat space. -- Jerry E. Bayles.
--End of second letter.

Finally, concerning space having intrinsic reality in the absence of a defining field, consider the following two cases involving the electric and magnetic static fields.

1. If a dielectric such as solid beeswax be placed between the metal plates of a capacitor and a voltage is applied across the plates such that the charge is stored as and energy field in the dielectric, the dielectric may be removed and set aside until later. Then, when the dielectric placed back between the free plates of the capacitor, the voltage will appear across the plates that was originally applied across those plates. This proves that the energy related to the electric field is stored in the physical entity of the molecules and atoms of the dielectric. **I ask the reader to now attempt the same with the vacuum of space.**

2. If a flat disk if metal be spun between the opposite poles of a magnet where those poles form a field 90 degrees to the surface of the disk and the poles are also circular and completely cover the surface of the disk, a voltage will appear between the center of the disk and its outside edge. If the reverse is attempted, and the magnet is spun instead of the disk, no voltage will be generated in the disk. This proves that the intrinsic field of space cannot be moved with the relative motion of the magnetic field so that there is no physical essence of space for that purpose.

In summation, space cannot *hold* energy since it has no physical essence that will allow it to do so. It is therefore the field and its own energy that defines space and thus space is characterized and given substance by the nature and energy of the field. This allows for the concept of 'photon space' as applied to the electromagnetic field. Since it defines the space, it also fixes the way we see space.

The purpose of the reprints above is to clarify my position concerning fields and space relative to contemporary thinking where space is assumed to have some sort of essence apart from the fields that exist in it.

Finally, in the big picture, I see all of creation unfolding as a giant nautilus shell, where each quantum essence is established over and over from the center of energy space. Therefore, every quantum particle

and system of related particles has its time code stamped into it concerning where it is actually located in the pinwheel of creation. (Time travel is possible if you know the appropriate code and field structure.) The universe is growing through time, spinning on an unseen axis in a dimension involving time and energy also unseen for the real structure that it is since we cannot see through the eyes of the Creator. As a result, if a living system is not growing, it is dying. As a natural process, if it is neither growing nor dying, it may be already dead or is a seed. For my part, I see our universe as growing, as a living entity. -- Jerry E. Bayles.

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