

"Evidence of the Existence of the Aether"

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2007-10/msg00520.html>

- *From:* "Doof" <doof@xxxxxxx>
 - *Date:* Tue, 9 Oct 2007 10:13:17 -0400
-

"Evidence of the Existence of the Aether"

It is the currently accepted "truth" that there is no experimental evidence of the Aether. This seems surprising because, if the Aether made its presence any more obvious, physicists would have teeth marks on their butts from where the Aether had jumped up and bit them. A few examples follow.

Empty space, other than occupying a volume, has at least two observable properties, its dielectric constant and its permeability. If space is "empty", what is it that has these properties? Since, if space consisted of a volume of "nothingness", only a fool would assert that it could have any properties other than volume. Since it does, space it would seem that it does contain a rejected entity, which was called the Aether in the 19th Century!

The velocity of light in free space is determined by the dielectric constant and the permeability of space in accordance with accepted physical laws. Similarly, the velocity of sound in a steel rod is determined, using an equation analogous to that used to determine the velocity of light, by the elasticity and density of the steel. While a modern physicist seems to assert that the existence of the dielectric constant and the permeability of space does not require the existence of a medium (i.e.– the Aether) having these properties, it seems certain that he would not be foolish enough to assert that, since the velocity of sound in a steel rod is determined only by its elasticity and its density, he could remove the rod and retain the density and elasticity so that the sound could propagate. One might reasonably wonder if something is lacking in the mentality of physicists who would tolerate such a double intellectual standard.

Special Relativity (and the Lorentz Contraction Aether Theory) tells us that the velocity of light is independent of the velocity of its source. Such an independence is characteristic of a wavelike disturbance propagating through a medium, it is not characteristic of an entity propagating ballistically through "empty" space. For example, the sound of a rifle shot travels at the velocity of sound in air and its velocity is independent of the velocity of the rifle. The velocity of the bullet from the rifle, however, is additively determined by the velocity of the rifle and the velocity at which the bullet is projected. If we abolish the Aether the

"Evidence of the Existence of the Aether"

observed independence of the velocity of light from the velocity of its source would seem to require that some form of "magic" must be at work since light would then have no way to determine how fast it is supposed to travel. Since the writer finds the idea of "magic" accounting for observations in the science of physics extremely hard to accept, he would be grateful if someone could provide some other explanation, which does not require a medium (the Aether). (P.S.– Handwaving arguments about spacetime don't serve the purpose.)

If one examines Dirac's treatment of the creation of complementary particles from high energy photons, he finds that Dirac had to invent a "sea of negative energy pervading all of space" in order to make his mathematics work. Aside from the fact that "negative energy", in the sense that Dirac used it, would seem not only to be unexplained but to be impossible, how does that postulated "sea of negative energy" differ from the Aether? Both say that "something" exists in a space which had been arbitrarily assumed to be empty!

Current theory asserts that forces that "act at a distance" do so as a result of "virtual particles" (e.g.– virtual photons, gravitons, gluons, etc.) that pop into and out of existence so rapidly that quantum uncertainties prevent the Law of Conservation of Energy from being violated. There would seem to be at least two problems with this concept.

The first is the problem is the number of particles involved. At any instant of time, every particle in the Universe gravitationally attracts every other particle and they must therefore be exchanging gravitons. Furthermore, these gravitons, since they are virtual, must be extremely short lived. The number of gravitons involved in this concept is staggering. At any instant for example, assuming that the presently accepted value of 10^{80} particles in the Universe is reasonably correct, there must be at least $0.5 \cdot (10^{160})$ particles existing at one time. The size of this number is increased by the fact that they must be short lived and therefore must be replaced continuously (gravity appears to be continuous), suggests that a bit of skepticism would be in order.

The second problem is that of explaining how the exchange of "virtual particles" accomplishes the production of an "attractive force". The production of a repulsive force by the exchange of particles is obvious. Two athletes throwing a medicine ball back and forth experience a repulsive force because of momentum exchange between them. There does not seem to have ever been a viable explanation as to how these particles act to produce an attractive force. The momentum exchange requirement to produce an attractive force prohibits the production of such a force unless there is a substrate (e.g.:– the Aether) with which they can exchange momentum. A boomerang returns to the thrower because it exchanges momentum with such a medium (air). If space were empty (no Aether), such a momentum exchange cannot occur and the virtual particles could only produce a repulsive force. The writer is aware that the mathematics associated with the concept of "virtual particles" allows for the production of attractive forces. He is also aware of the fact that there are many mathematically treated problems in which the

"Evidence of the Existence of the Aether"

mathematics deals with conditions outside of other constraints related to the problem and which limit the applicability of the mathematics. This would seem to be such a case. Allow the Aether or its equivalent to be present as a substrate and the mathematics of "virtual photons" works.

There are two interpretations of Quantum Theory. One interpretation involves parallel Universes coexisting in the same space as our own that are created every time that a particle makes a "quantum choice". This approach not only suffers the problem of absurdly large numbers described for gravitons, it requires that an amount of energy equal to the energy content of our entire Universe multiplied by the number of particles in the Universe be created at every instant of time. It also requires that the volume of space occupied by each particle contain an amount of energy equal to the energy equivalent of that enormous amount of energy. Since the writer accepts the concepts that energy is conserved and two entities cannot occupy the same space at the same time, he considers the interpretation to be rather foolish.

The other interpretation of Quantum Theory requires that quantum effects propagate at an "infinite" velocity. Most of the academic hierarchy seems to consider this interpretation to be both "spooky" and wrong since "Special Relativity clearly shows that nothing can travel faster than light". To the contrary, Special Relativity shows the opposite. What it shows is that an entity represented by energy cannot travel faster than the velocity of light and the scientific community has fallen into the trap of assuming that everything that is observable is represented by some form of energy. The reason that the Special Theory of Relativity imposes its restrictions on velocity is that the Lorentz Transformation for energy, in a force-length-time system of units, is $1/(1-V^2/C^2)^{0.5}$. This means that, at the velocity of light, energy becomes infinite and that, at velocities above that of light, energy becomes imaginary. The effect is a limitation on the velocity of propagation of energy. As a result, any form of communication that involves the encoding of information in the form of energy is limited to the velocity of light.

Experiments have shown that the polarization of "paired photons" is coupled so that changing the polarization direction (the quantum number) of one causes the polarization direction of the other to change in correspondence. In addition to demonstrating this polarization coupling, experiments performed in the '80s have also shown that the polarization coupling propagates at least 4 times the velocity of light and perhaps at an infinite velocity. (It should be noted that changing the polarization direction of a photon does not change its energy content so the coupling of polarization direction between them does not involve energy transfer).

The polarization direction of the photon is an angle that is measured in radians (the distance along an arc divide by the radius of that arc). The Lorentz Transformation for Angle is therefore equal to the Lorentz Transformation for Length divided by the Lorentz Transformation for Length and is therefore equal to unity and is independent of velocity. (Above and below a velocity of C, the value of unity is obvious. At the velocity of C,

"Evidence of the Existence of the Aether"

the value is nominally indeterminate but can be shown to be equal to the value of unity by borrowing a technique from Calculus). With a value of unity for the Lorentz Transformation for Angle, it seems reasonable to assert that Special Relativity requires the polarization coupling of paired photons to travel at the infinite velocity required by the second, more rational interpretation of Quantum Theory. Assuming that this is the case, then the current concept of "spacetime" as a single entity must be in error. An absolute time and velocity reference is required.

If one examines both the Special Theory of Relativity (STR) and the Lorentz–Contraction Aether Theory (LCAT), he finds that they are actually the same theory in that they are cross derivable. (LCAT) is actually a special case solution of (STR) and cannot be disproved without disproving (STR) as well. LCAT asserts that the Aether exists but because information cannot propagate faster than light (quantum theory tells us that this is not true), we cannot find our velocity with respect to it. STR tells us that because our velocity with respect to the Aether cannot be measured, it does not exist in the theory! It does not preclude its existence or its effect from being observed by other means. Dr. Einstein asserted, "remember gentlemen, we have not disproved the existence of the Aether, we have only proven that we do not need it (for computations)".

An objection to the existence of the Aether has been raised. This objection is that if the Aether exists, "absolute time" would also have to exist. The idea of absolute time has, however, been abolished in physical theory. Unfortunately, its rejection did not result from physical observation or from logical deductions based on previously proven facts. It is based solely upon a consensus viewpoint. In other words, that rejection is based upon an unproven (and probably unprovable opinion) rather than upon fact. The motivation for this opinion would seem to be an overwhelming urge on the part of physicists to consider space and time to be aspects of the same structure, spacetime, as viewed from different reference frames so as to make their mathematical treatment "elegant". Nature doesn't care about what we would like to be true and there is no objectively valid reason to accept the viewpoint.

It is claimed that the concept of spacetime rather than space and time as separate entities yields a simpler solution and, according to the principle of Ockham's Razor, must therefore be the correct one. It is true, mathematical solutions employing the spacetime concept are much simpler than solutions involving the Aether, but the solutions are not simpler with respect to reality. As Dr. Einstein, who maintained a belief in "absolute time" for 25 years after the publication of Special Relativity exclaimed, the "concept of spacetime requires an infinite number of Aethers" as indeed it does. Once one realizes this, Ockham's Razor would lead any reasonable man to the Aether and not to the concept of "spacetime" as a single entity.

Unfortunately, Modern Physics seems to have been taken over by mathematical idiot savants who lack an appreciation for the implications of mechanism and strive to suppress the contributions of those who would dare to say "Hey, wait a minute"

"Evidence of the Existence of the Aether"

The source material for this posting may be found in <http://einsteinhoax.com/hoax.htm> (1997); <http://einsteinhoax.com/gravity.htm> (1987); and <http://einsteinhoax.com/relcor.htm> (1997). EVERYTHING WHICH WE ACCEPT AS TRUE MUST BE CONSISTENT WITH EVERYTHING ELSE WE HAVE ACCEPTED AS TRUE, IT MUST BE CONSISTENT WITH ALL OBSERVATIONS, AND IT MUST BE MATHEMATICALLY VIABLE. PRESENT TEACHINGS DO NOT ALWAYS MEET THIS REQUIREMENT. THE WORLD IS ENTITLED TO A HIGHER STANDARD OF WORKMANSHIP FROM THOSE IT HAS GRANTED WORLD CLASS STATUS.

All of the Newsposts made by this site may be viewed at the <http://einsteinhoax.com/postinglog.htm>.

Please make any response via E-mail as Newsgroups are not monitored on a regular basis. Objective responses will be treated with the same courtesy as they are presented. To prevent the wastage of time on both of our parts, please do not raise objections that are not related to material that you have read at the Website. This posting is merely a summary.

E-mail:- einsteinhoax@xxxxxxxx If you wish a reply, be sure that your mail reception is not blocked.

The material at the Website has been posted continuously for over 8 years. In that time THERE HAVE BEEN NO OBJECTIVE REBUTTALS OF ANY OF THE MATERIAL PRESENTED. There have only been hand waving arguments by individuals who have mindlessly accepted the prevailing wisdom without questioning it. If anyone provides a significant rebuttal that cannot be objectively answered, the material at the Website will be withdrawn. Challenges to date have revealed only the responder's inadequacy with one exception for which a correction was provided.