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ABSTRACT: WE SHOW THE EFFECT OF NON CONSTANT SPEED OF LIGHT ON 21<sup>st</sup> CENTURY PHYSICS

UPDATED 110804 11:46 a.m.

THE EFFECT OF NON CONSTANT SPEED OF LIGHT ON 21<sup>st</sup> CENTURY PHYSICS

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3 August 2011

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## SPECIAL RELATIVITY

**It was first shown mathematically by this writer, and later supported directly and indirectly in papers by other physicists, that the speed of light is not constant, as was incorrectly postulated by Dr. Albert Einstein in his 1905 Theory of Special Relativity [1] [2][3][7] [8] [9] [10]. This false postulate by Dr. Einstein led him to his improper derivation of  $E = MC^2$ . See [Not So Fast, Dr. Einstein](#) [1].**

Nobel Laureate Frank Wilczek, in his popular book, [The Lightness of Being](#) (Perseus Books Group, New York, 2008), has even raised Dr. Einstein's famous equation to the status of a universal law he calls "Einstein's Second Law." This universal "law" implies that ALL mass is convertible into energy according to Dr. Einstein's equation  $E = MC^2$ . **This writer's 2011 paper, [Anti-Neutron Theory/Model of The Atom](#), [4] shows that only the masses of electrons and positrons convert completely into energy during annihilation such as in the fusion process on the sun. The mass of the anti-neutron itself does not convert into energy. In the anti-neutron theory/model of the atom, all stable mass in hydrogen, helium, and the higher elements is accounted for by anti-neutrons, electrons, positrons, and neutrinos,. Unstable short lived particles, of which there seem to be hundreds, play a perhaps very complex and poorly understood role in the otherwise very simple anti-neutron theory/model which applies to most of what goes on in the universe that is of practical interest to us.**

**In 1928, Physicist (and electrical engineer) Dr. Paul Dirac wrote down the Dirac Equation and predicted the existence of positrons as he set out to wed relativity together with quantum physics by giving a relativistic generalization of the Schrodinger equation. The Dirac equation does incorporate the idea of  $E = MC^2$  which supplies a much needed bridge between energy and mass when electrons and positrons annihilate. A purely lucky accident. The existence of the positron does**

allow a limited but quite different derivation of  $E = MC^2$  [1]. In 1932, Carl Anderson discovered the positron during his observation of cosmic rays. Both Dirac\* and Anderson received separate Nobel prizes. Incorrect relativity theory pointed Dr. Einstein to the partially correct idea of  $E = MC^2$ . Dirac embraced this incorrectly derived idea, which does apply to positrons and electrons, and was therefore able to “back into” correctly predicting the existence of positrons. Just luck!

## ANNIHILATION

Annihilation is a multiple cancelation process analogous to interference of water waves or adding +1 to -1 to arrive at zero. With positrons and electrons, their + and - charges cancel to zero. Their spins of  $\frac{1}{2}$  cancel to zero in the sense that electron spin of  $\frac{1}{2}$  plus positron spin of  $\frac{1}{2}$  adds to the radiant energy photon's spin of 1 that is carried away in the annihilation process. Their oppositely directed momentum cancel to zero. Finally, their masses cancel to zero. The net result is a complete change of electrostatic energy, kinetic energy, AND mass energy to 100% massless radiation energy, often referred to as so called photons. The conversion of electron and positron masses to energy is quite a “trick,” indeed, and something that the anti-neutrons do not do in the anti-neutron theory/model of the atom.

## GRAVITY

The strong force and gravity do attract both anti-neutrons together with electrons, positrons, neutrinos, and photons, however, and both gravity and photons can be generated by accelerated motion. In twined within these accelerated motion connections is the fact that radiation is attracted by gravity. To fully understand this accelerated motion induced gravity generating and radiation generating relationship will be to better understand exactly what gravity is. Dr. Einstein was definitely knocking on the door with his attempts to examine both uniform and accelerated motions, both absolute and relative.

## GENERAL RELATIVITY

As shown in this writer's paper [Anti-Neutron Theory/Model of the Atom](#) [4], Dr. Einstein's geometric model for gravity is just that, a model, which accurately describes the force of gravity but does not really improve on the explanation of how gravity actually works. The general theory of relativity does calculate the perihelion of Mercury more accurately than Newton's classical model, but this can apparently be calculated to similar accuracy in Newton's model using Fourier analysis. [6] The

gravity bending of light is also modeled with so called “curved space,” but it is not really explained how space gets curved as a physical rather than simply a mathematical manifestation. Gravity force thus remains an enigma along with the strong, electric, and magnetic forces, the latter which are often thought of as Faraday did as “fields.” [4] The so called “force carrier particles” of the “Standard Model” do not elegantly explain things much better. Clearly, better theories are needed.

## INFINITIES

Nobel Laureate Dr. Richard Feynman explains in his 1986 Dirac Memorial Lecture [4] that particles appear to go backwards in time, that his related Feynman diagrams makes no sense, and he seems to get the correct answers for the wrong reasons. Dr. Feynman further stated in his 1964 Cornell Messenger series lecture, Page 150 [5]:

“Actually no one has a model in which you disregard the proposition about the probability, or you disregard causality, which is also consistent with quantum mechanics, relativity, locality and so on. So we do not know exactly what it is we are assuming that gives us the difficulty producing infinities. A nice problem! However, it turns out it is possible to sweep the infinities under the rug, by a certain crude skill (often called renormalization), and temporarily we are able to keep on calculating.”

In the same 1986 Dirac Memorial lectures, Nobel Laureate Steven Weinberg states that “Dirac’s great work on the theory of the electron (by his) attempt to unify quantum mechanics and relativity.....today that point of view is generally abandoned...” This writer argues that we should instead rework Dr. Dirac’s and Dr. Feynman’s equations and not throw the babies out with the bath water. When listening to recordings of Dr. Feynman’s famous Cal Tech undergraduate physics course, one can tell that Dr. Feynman waffles when talking about special relativity. He seems to know, deep down, that something is wrong with special relativity but just doesn’t have the time or the inspiration to explore it any deeper. The same might be said about most modern physicists. Nobel Laureate Frank Wilczek, in his above referenced book, The Lightness of Being, says on page 41:

“More important for our purposes is another famous relativistic effect, time dilation. Time dilation means that time appears to flow more slowly in a fast moving object. Thus the stuff inside the protons appear nearly frozen in place.....Fitzgerald-Lorentz contraction and time dilation have been explained in hundreds of popular books on relativity, so rather than belaboring them here, *I’ll just leave them.*”

*Thus we have a Nobel Laureate citing “hundreds of popular books” to support his MIT and Nobel level physics. Dr. Wilczek has a copy of this writer’s paper [1].* Dr. Wilczek’s Nobel Prize in 2004 concerned asymptotic freedom in the theory of the strong interaction. This is at the very core of the so called “Standard Model” of the atom which this writer refutes in his paper Anti-Neuton Theory/Model of The Atom [4].

## TIME DILATION AND MASS INCREASE

Special Relativity time dilation and mass increases, caused strictly by geometric relative motion, derived from Dr. Einstein's incorrect postulate that the speed of light is constant, is commonly found as a basic assumption in numerous published physics papers as well as throughout modern physics thinking. All physics and other scientific papers making this assumption, therefore, need rethinking and reworking. In some cases, this reworking will make a huge difference, and in other cases there will be less of an impact.

Also, Dr. Einstein's concept of space-time has no valid basis.

## SUMMARY

This writer has presented many arguments to suggest that much of current physics thinking needs rethinking in light of incorrect assumptions relating to both Special and General Relativity as well as the so called "Standard Model" of the atom. Your comments are welcome: [Institute@k1man.com](mailto:Institute@k1man.com)

[1] Not So Fast, Dr. Einstein by Glenn A. Baxter, P.E., [www.vixra.org](http://www.vixra.org) 1107.0027

[2] Relativity and Quantum Electrodynamics in the Theory of Reference Frames by D. Sasso, [www.k1man.com/a](http://www.k1man.com/a)

[3] Using The Law of Conservation of Momentum For Test The Validity of The Special Theory of Relativity by Cochetklov Victor Nikolayevick, [www.k1man.com/f36](http://www.k1man.com/f36)

[4] Anti-Newton Theory/Model of The Atom by Glenn A. Baxter, P.E., [www.vixra.org](http://www.vixra.org) 1107.0026

[5] The Character of Physical Law, Modern Library, 1994, New York

[6] Nahas' Newtonian derivation of Planet Mercury advance of perihelion of 43" seconds of an arc century – Roger J. Anderton - [www.k1man.com/f2.pdf](http://www.k1man.com/f2.pdf)

[7] Explaining Michelson-Morley Without Special Relativity- S. Wagh and W. Wagh, Central India Research Institute, [www.k1man.com/f37](http://www.k1man.com/f37) [waghsm.ngp@gmail.com](mailto:waghsm.ngp@gmail.com) [jetwagh@gmail.com](mailto:jetwagh@gmail.com)

[8] Special Relativity: depending on the definition of the momentum of a closed system of bodies from time by Cochetklov Victor Nikolayevick, [www.k1man.com/f33](http://www.k1man.com/f33)

[9] The Special Theory of Relativity: Linear Example of Infringement of Laws of Preservation of Impulse  
by Cochetklov Victor Nikolayevick, [www.k1man.com/f42](http://www.k1man.com/f42)

[10] **How Light Speed is Affected by Source Speed** – 2010 - Joseph A. Rybczyk – “...the speed of light is affected by the speed of the light source...” [www.k1man.com/f41](http://www.k1man.com/f41)

\* Dr. Paul Dirac shared the 1933 Nobel Prize with Dr. Erwin Schrodinger