$E = kMC^2$ As A Special Case For Electron – Positron Annihilation by Glenn A. Baxter, P.E.*

(Preliminary paper)

ABSTRACT

We have shown that Dr. Einstein's famous formula $E = MC^2$ is incorrectly derived. See www.k1man.com/c1 We have further suggested that $E = MC^2$ is not an identity, with implications for Dr. DeBroglie's famous equation, E = hf, where f is the frequency in hertz and λ = c/f. See www.k1man.com/c4 We now propose that there exists a k, such that $E = kMC^2$, as a special case for electron – positron annihilation.

ARGUEMENT

J.C Valks has recently shown calculations to suggest that, assuming Dr. Einstein's famous mass changing due to uniform relative motion relativistic equation, m $= Mo/\sqrt{(1 - v^{2/c^2}}$), is valid, then k =~ 40. See www.k1man.com/z We have demonstrated that m $= Mo/\sqrt{(1 - v^{2/c^2}}$ is not valid. See www.k1man.com/c1.

Now, assuming that m $= Mo/\sqrt{(1 - v^{2/c^2}}$ is not valid, we propose to calculate a new value for k. Actually, k =~ 40 is not too bad as it is, because the important thing here is that we have suggested that $E = MC^2$ is far too simplistic and not generally true for all mass but only true, or nearly true, within the writer's anti-neutron theory/model of the atom. See www.k1man.com/c2

We show in the paper, Not So Fast, Dr. Einstein, (see www.k1man.com/c1) that the speed of light is not constant, and that therefore special relativity is not correct as well as a host of conclusions flowing from special relativity by Dr. Einstein, including the derivation of $E = MC^2$. $E = MC^2$ CAN be derived from theoretical analysis of the annihilation of an electron and a positron, as done in Not So Fast, Dr. Einstein, by temporarily neglecting spin. Then, by including spin, energy is actually greater that shown by $E = MC^2$. Thus, photon energy is "created," or rather transferred, from electron and positron mutual electrostatic energy, while their charges and masses both cancel out to zero. The fact is that photon energy can also be "created" and radiated from a radio antenna by accelerating electrons in the radio antenna wire without electrostatic charges cancelling and without masses cancelling. In the case of electron and positron annihilation, electromagnetic energy comes DIRECTLY from the electrostatic energy stored in the electric field between the electron and positron before they accelerate as they are mutually attracted, while electromagnetic energy from a radio antenna

comes from the fuel driving the electric generator which powers the radio transmitter which is attached to the radio antenna thus accelerating electrons and generating electromagnetic energy which is radiated from the radio antenna. The energy in the fuel, of course, came from fusion on the sun which was the original electron and positron annihilation.

In 1924, Dr. Louis de Broglie assumed the identity $E = MC^2$ to be correct for all matter, and then he directly derived his equation and idea that λ = h/p for any particle with mass or even theoretical photon particles without mass. The collection of radical ideas was now that all mass was identical to energy and that all particles, with or without mass, had a characteristic wave length. This neatly linked together the concepts of both waves (photons) and particles, as well as mass and energy. If only physics and nature were that simple!

In Not So Fast, Dr. Einstein, we assumed that Dr. de Broglie's equation was correct and then derived $E = MC^2$. **Dr. de Broglie did the reverse; he assumed $E = MC^2$ to be correct and then derived his famous equation, λ = h/p Starting with $E = MC^2$ and Planck's relationship E = ħf, where f = c/ λ and momentum is p = mc, then hf =pc and hc/ λ = pc, thus h/ λ = p or λ = h/p, which is Dr. de Broglie's equation.**

Suppose $E > MC^2$, *as described* in the first paragraph above, and E = hf, where f = c/ λ and momentum is p = mc. Therefore E > pc and hf > pc or hc/λ > pc and therefore h/λ > p as described by Z.Y. Wang in his paper λ = h/p is universal? [1] There, Dr. Wang analyses photons in a wave guide and concludes that h/λ > p as well.

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