

## The Gamma Factor Resolved

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The Bohr velocity of an electron in orbital motion is now shown to be the velocity of an oscillator about the center of a torus. Bohr's electron is just one type of oscillator specific to the hydrogen atom. Bohr and Einstein described the same event but neither knew it. Here follows the solution to Einstein's equation and Bohr's affirmation of the truth.  $E=mc^2$  is the description of the Bohr model. Einstein created an equation that backed the Bohr model. Arnold Sommerfeld discovered the Fine Structure Constant in his spectral studies and Feynmann coined the dimensionless constant - The Hand of God number or Alpha. The inverse of alpha is 137.036 and shown by me to be the measure of radial length increase of a torus to produce the measure of wavelength of light. Wavelength of light is the circumference of a torus that undergoes radial expansion by a factor of 137.036. So the upper expansion limit would yield lambda and the lower the circumference of a circle.

$$\text{Bohr's velocity } v = c/137.036$$

Einstein's equation  $E = mc^2$  can be rewritten in his own format as

$$E = mc^2 - mv^2 = 2m^*c^2$$

$$m (c^2 - v^2) = 2m^*c^2$$

$$m (1 - v^2/c^2) = 2m^*$$

Here the oscillator,  $m$  represents the mass of an electron. However the oscillator mass could be of any mass other than an electron. The periodic table will be rewritten.

$$\text{Velocity, } v = c/137.036$$

$$2m^* = \text{twice the Rydberg mass} = 2 \times 2.425434789 \times 10^{-35} \text{ kg}$$

Since mass is inversely proportional to time period

$$T^* (1 - v^2/c^2) = T$$

I always wondered where the ionized electron got its impact momentum from.

$$2m^* c^2 = m v^2$$

or the energy of the Rydberg photon equals the kinetic energy of the electron

$$\text{i.e } m^*c^2 = \frac{1}{2} m v^2$$

The Rydberg photon is the reason for the spectra in the H-atom.

$m^* c \lambda = h$  where the inverse of wavelength is the Rydberg wave number.

I have thus solved Einstein's equation by giving meaning to the terms in  $E = m c^2$ .

Einstein, Bohr, Sommerfeld, Planck, de Broglie, Newton, Rydberg were measuring different aspects of one phenomenon namely an oscillator in a torus.

The ratio between the electron mass and the Rydberg photon that comprises atomic mass as a cluster of photons is  $9.1093826 \times 10^{-31} \text{ kg} / 2.425434789 \times 10^{-35} \text{ kg} = 37557.73044$  This is a useful constant as a predictor of the oscillator mass that produces emitted wavelengths in spectra.

Newton kept mass constant, Einstein varied mass, Bohr looked at the kinetic energy of an electron produced by pair production, scientists looked at the nucleus as a sounding board for the electron to interact. I have proved the Rydberg photon to be the mass which acts as the factor for the conservation of energy transfer.

The reason for the  $KE = \frac{1}{2} mv^2$  is due to rest zero velocity of a newly born oscillator out of pair production.

Acceleration is assumed to be constant,  $a = v / t$

The moment an electron mass is formed under the stress of ionization energy  $eV$  its mass is at rest and velocity is zero. Under constant acceleration its velocity increases to velocity,  $v$  where  $v = c / 137.036$ .

The graph of velocity versus time is plotted. The area of the triangle from the instant velocity point to the baseline length of time yields  $\frac{1}{2} \text{ base} \times \text{height}$  which represents  $\frac{1}{2} \text{ time} \times \text{velocity} = r / 2$

Here  $r = 2 \pi R_e = 2 \pi \times 2.817940325 \times 10^{-15}$

And so the reason for the flux quanta being  $r / 2$  is explained.

NOTE - The gamma factor is the pulsation factor observed in spectra by the inverse of Feynmann's terminology of the Hand of God and so he missed the real image. Bohr talked about electrons orbiting the nucleus and drinking and sweating energy as radiant light. He then backed down saying that his model was not the affirmation of truth. How close he was. And Einstein did the math by changing the constant mass to the variable mass. He first thought the mass was ether then changed his mind. Einstein did not know which mass he was talking about. The mass is the ether oscillator and the varied mass is not the changed mass but the photon mass that clusters to form atomic mass units. This photon mass forms the emerging electron and the energy is conserved by rebounding off the Rydberg photon. The newly born electron starts from a rest mass of zero velocity to velocity,  $v$ .