

Radiation of Light by 186-Ether: Unity of Light and Gravity

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Radiation is transmission of light as an ether wave. Wien's displacement constant, b and Planck's radiation number b_{pl} are corrected and represent energies of two interacting 186×186-ether waves. The transmission of light is not locomotion of photons. A 186-ether black body is the source wave-maker rippled by pair production that in turn ripples myriads of 186-ether particles outside atomic mass units where wavelength is changed by a factor of 4.965051098. Force is experimentally proven to be Kelvin temperature. Units of Kelvin and Newton are synonymous. The solution for velocity squared is provided. Coulomb's constant is revealed as the product of two velocities of a single 186-ether particle. One velocity is rotational and the second represents a pulsation. Unity of light and gravity is elucidated at 186-ether. The lower radial length limit of the universe is that of fundamental 186-ether mass. The increase in radial length by 137.036 yields the Planck mass. Quantum gravity holds. The birth or irruption of photon mass is revealed pace Newton and Boltzmann.

1. Introduction

In this paper, undeniable evidence for the existence of ether and its role in light transmission is provided. The mass \wp of the 186-ether particle and Boltzmann radius B , has been well characterized.[1-7] 186-ether is a particle with mass, wavelength and elementary charge. 186-ether yields the gravitation constant, G and Coulomb constant, k_e . Coulomb's constant k_e is deconstructed. Charge squared is a pulsation of a 186-photon about a mean volumetric radius B_e that corresponds with Boltzmann's constant.

A generalized equation for charge squared

$$e^2 = m \cdot r \cdot 10^7 \text{ Kg} \cdot m \quad (1)$$

A specific equation for 186-ether

$$q_e^2 = \wp \cdot B \cdot 10^7 \text{ Kg} \cdot m = \wp \cdot B_e \text{ Kg} \cdot m \quad (2)$$

$$q_e^2 = 1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-36} \times 10^7 \text{ Kg} \cdot m \quad (3)$$

A generalized equation for wavelength of light

$$\lambda = 2\pi \cdot r \cdot 137.036m \quad (4)$$

Wavelength is observed due to a radial expansion of a photon by a factor of 137.037. This solution to Feynman's conjecture on the hand of god, inks the fine structure in spectra.

The wavelength for 186-ether

$$\lambda = 2\pi \cdot 1.380668031 \times 10^{-36} \cdot 137.036m \quad (5)$$

At light speed in space devoid of atomic mass units

$$G = \frac{1.380668031 \times 10^{-36}}{1.859222909 \times 10^{-9}} \cdot c^2 \quad \text{or} \quad G = \frac{B}{\wp} \cdot c^2 \quad (6)$$

The breakdown of the components of the gravitation constant

$$K = \frac{m}{r} = \frac{\wp}{B} = \frac{1.859222909 \times 10^{-9}}{1.380668031 \times 10^{-36}} = 1.346611109 \times 10^{27} \text{ kg} / m \quad (7)$$

The curvature and density of space can be mapped with the help of Eq. (7). How this is so is described as a full chapter in my book - *The Ether Model and The Hand of God*. [12] The ether constant ratio K pace Newton, represents mass of ether per radial meter. [1] This ratio holds at the speed of light squared, only.

The relationship of the ether mass \wp to other well established physical constants follow.

$$m \equiv \sqrt{\alpha} m_{pl} = \sqrt{\frac{\alpha \hbar c}{G}} = \sqrt{\frac{k_e}{G}} e = \wp = 1.859222909 \times 10^{-9} \text{ kg} \quad (8)$$

$$\hbar \equiv \frac{h}{2\pi} \equiv \text{Planck's constant (bar)} = 1.054571682 \times 10^{-34} \text{ J} \cdot \text{s} \quad (9)$$

$$c \equiv \text{Light speed constant} = 2.99792458 \times 10^8 \text{ m/s} \quad (10)$$

$$e \equiv \text{Charge constant} = 1.60217653 \times 10^{-19} \text{ C} \quad (11)$$

$$k_B \equiv \text{Boltzmann constant} = 1.380668031 \times 10^{-23} \text{ J/K} \quad (12)$$

$$G \equiv \text{Gravitation constant} = 6.67428 \times 10^{-11} \text{ N} \cdot \text{m}^2 / \text{kg}^2 \quad (13)$$

$$\alpha \equiv \text{Fine Structure Constant} = 1/137.036 \quad (14)$$

$$k_e \equiv \frac{\alpha \hbar c}{e^2} = \text{Coulomb constant} = 8.987551787 \times 10^9 \text{ N} \cdot \text{m}^2 / \text{C}^2 \quad (15)$$

$$m_{pl} \equiv \sqrt{\frac{\hbar c}{G}} = \text{Planck Mass} = 2.176450474 \times 10^{-8} \text{ kg} \quad (16)$$

$$\text{or } \pi B^2 \cdot 137.036 = \pi \cdot (\text{Plancklength})^2$$

It was the magnetic flux constant that led me to a pulsating 186-ether which expands to a limit of Planck's length and hence Planck mass in Eq. (16). The Planck length times the ether constant ratio K from Eq. (7) yields the Planck mass. **I thus reached the lower length limit B of 186-ether the upper limit being that of the Planck mass predicted by quantum gravity.** [4]

I imagined that if 186-ether could belong to the m_{pl} , G , λ and e then why not with the so-named black body. So, I revisited Wien's Law.[3] Wien's Law is given by the formula

$$\lambda_{\max} = \frac{b}{T} \quad (17)$$

Here λ_{\max} is the peak emission wavelength of a black body, T its absolute temperature, and $b = 2.8977685 \times 10^{-3} \text{ m} \cdot \text{K}$ Wien's displacement constant.

I recalled that Planck's dimensionless number remains unresolved in his derivation of black body radiation,

$$b_{Pl} \equiv \frac{hc}{k} = \frac{6.626153583 \times 10^{-34} \times 2.99792458 \times 10^8}{1.380668031 \times 10^{-23}} \quad (18)$$

$$b_{Pl} = 1.438775162 \times 10^{-2} \text{ m} \cdot \text{K}$$

I now define these two constants namely b_{bl} and b as the Planck-

$$\text{Wien ratio: } \zeta \equiv \frac{b_{Pl}}{b} = \frac{1.438775162 \times 10^{-2}}{2.8977685 \times 10^{-3}} = 4.965114231 \quad (19)$$

I postulate that this unit-less number is a ratio of two wave energies as researched in Ref. [3] for light waves emitted from the H-atom. Force times wavelength of two interacting ether waves produces two energies in a constant ratio. Significantly, the force is magnified by 10^7 in the interaction of atomic mass with 186-ether. How do I know that the force is magnified? Temperature tells me so. Force is Kelvin temperature as explained below.

Consider an experiment. Hydrogen molecules at 300K measure a velocity of 1927.31 m/s . Apply values of hydrogen molecular mass m , velocity v , Boltzmann's constant k_B at 300K as 300 million Newton in the kinetic theory of gases formula

$$KE = \frac{1}{2} m \cdot v^2 = \frac{3 \cdot k \cdot T}{2} \quad \text{or} \quad m \cdot v^2 = 3 \cdot B_e \cdot F \quad (20)$$

$$2 \left(1.67262158 \times 10^{-27} \right) \times 1927.312^2 = 3 \left(1.380668031 \times 10^{-29} \right) \times 300 \times 10^6$$

$$1.242601228 \times 10^{-20} \text{ J} = 1.242601228 \times 10^{-20} \text{ J} \quad (21)$$

$$m \cdot v^2 = e \cdot V \cdot e$$

or Inertia Energy = Gravitation 186 Energy

$3k_B T$ or $3B_e F$ the reason for Brownian motion by 186-Ether

Energy $3k_B T$ yields the right amount of measured energy of hydrogen molecules in motion at 300K. However, the components of this 186-ether energy, namely, the Boltzmann constant k_B and Kelvin temperature T are arbitrary values.

$$\text{Rearrange terms in Eq. (21)} \quad \text{Volt, } V = \frac{m \cdot v^2}{e^2} \quad (22)$$

$$\text{Volt, } V = \frac{2 \times 1.67262158 \times 10^{-27} \times 1927.312^2}{\left(1.60217653 \times 10^{-19} \right)^2} \quad (23)$$

$$\text{Volt, } V = 4.840732091 \times 10^{17} \text{ volts} \quad (24)$$

Revisit Eq.(3)

$$q_e^2 = 1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-36} \times 10^7 \text{ Kg} \cdot \text{m}$$

$$\text{Or } q_e^2 = \wp \cdot B_e = 1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-29} \text{ Kg} \cdot \text{m} \quad (25)$$

$$B_e = B \times 10^7 \quad (26)$$

Presented here in the above equation is some important information that helped solve the difference between the Coulomb constant k_e and speed of light squared c^2 : B_e is the radius of one 186-photon mass present in atomic mass units (amu) forced to pulsate at a new frequency during pair production. [3] The 186-photon mass with radius B_e is elementary charge e . A *photon* must obey the charge squared equation. Eq.(1) B_e is the radial length of 186-photon mass born out of ether with an increased radial length of $B \times 10^7$. Eq.(25)(26) The radius B of the second twin 186-ether mass present outside atomic mass units (amu) obeys the ether constant ratio K in Eq.(7). Returning to Eq. (24)

$$F = m \cdot a$$

$$900 \times 10^6 = 1.859222909 \times 10^{-9} \times a \quad (27)$$

$$a = 4.840732091 \times 10^{17} \text{ m/s}^2$$

Voltage in Eq. (24) is equal in magnitude to the slowed acceleration of 186-ether in Eq. (27).

$$\text{Acceleration} = \text{Volts} \quad (28)$$

Observe how 300K temperature is in fact $900 \times 10^6 \text{ N}$

$$\text{Force, N} = 3 \cdot T \cdot 10^6 \text{ K} \quad (29)$$

From experiment I have unraveled attributes of the Boltzmann constant as length and the Kelvin scale as force.

$$\wp \cdot v^2 = B_e \cdot F$$

$$v^2 = \frac{1.380668031 \times 10^{-29} \times 900 \times 10^6}{1.859222909 \times 10^{-9}} \quad (30)$$

$$v^2 = 6.68344404 \times 10^{-12} \text{ m}^2 / \text{s}^2 \quad (31)$$

It should be noted that centripetal acceleration v^2/B_e is voltage for photons, not ether. Force of the ether wave F_{λ_2} utilizing the ether constant ratio K from Eq. (7)

$$\text{Force} = K \cdot v^2$$

$$F = \frac{1.346611109 \times 10^{27} \text{ kg} \times 6.68344404 \times 10^{-12}}{1.0 \text{ m}} \text{ N} \quad (32)$$

$$F = 900 \times 10^{13} \text{ N}$$

Compare Eq. (29) where force is calculated as $900 \times 10^6 \text{ N}$ for 186-photon mass, with Eq. (32), where a force increase of 10^7 is observed for 186-ether. This increased force transfer from elementary charge or 186-photon mass or atomic mass unit on an impact with 186-ether in K , Eqs. (6),(7) is due to difference in radial length: Photon radius $B_e = \text{Ether radius } B \times 10^7$. Eq. (25)

The first impact in light transmission is between the Coulomb force of a '186-photon' with '186-ether' measured as the Newton force. '186-ether interacts with another 186-ether and so forth for millions of 186-ether in space' Eqs. (38),(50). Then '186-ether interacts with a 186-photon of another amu receptor atom'. This is radiation. Keep reading on to understand this paragraph. Consider Eq. (6) at light speed c

$$G = \frac{1.380668031 \times 10^{-36}}{1.859222909 \times 10^{-9}} \cdot c^2 \quad (33)$$

When 186-ether pulsate frequency slows down to velocity v^2 calculated in Eq. (31) a **photon mass m is born**.

$$G = \frac{1.380668031 \times 10^{-36}}{m} \times 6.68344404 \times 10^{-12} \quad (34)$$

$$\text{Photon mass } m = 1.38258031 \times 10^{-37} \text{ kg} \quad (35)$$

This is how elements are born in the universe at a particular frequency orchestrated by some impact force.

Let us determine the wavelength of this photon

$$h = m \cdot c \cdot \lambda$$

$$\lambda_2 = \frac{6.6260693 \times 10^{-34}}{1.38258031 \times 10^{-37} \times 2.99792458 \times 10^8} \quad (36)$$

$$\lambda_2 = 1.59861875 \times 10^{-5} \text{ m}$$

Energy of the ether wave E_{λ_2} can now be calculated from the force of the ether wave F_{λ_2} in Eq. (32) and wavelength λ_2

$$\begin{aligned}
 E_{\lambda_2} &= F_{\lambda_2} \cdot \lambda_2 \\
 E_{\lambda_2} &= 900 \times 10^{13} \times 1.59861875 \times 10^{-5} \\
 E_{\lambda_2} &= 1.438756875 \times 10^{11} \text{ J}
 \end{aligned}
 \tag{37}$$

Energy E_{λ_2} of the ether wave is the corrected value of b_{pl} $1.438775162 \times 10^{-2}$ appearing in the Planck-Wien ratio at Eq. (19). Now, I return to where I left off at Eq. (19).

2. A Theory of Knowledge (TOK) Question

What is the dimensionless number 4.965114231 appearing in the Planck-Wien ratio at Eq. (19)?

$$\zeta \equiv \frac{b_{pl}}{b} = \frac{1.438775162 \times 10^{-2}}{2.8977685 \times 10^{-3}} = 4.965114231$$

From the kinetic theory of gases experiment the dimensionless number will now be shown to be a ratio of energies of two interacting ether waves.

$$\begin{aligned}
 \zeta &= \frac{E_{\lambda_2}}{E_{\lambda_1}} = \frac{2\pi \cdot \wp \cdot c^2 \cdot 137.036}{3 \cdot T \cdot 10^{13} \cdot \lambda_{emit}} = 4.965051098 \\
 \zeta^* &= \frac{\lambda_2}{\lambda_1} = 4.965051098
 \end{aligned}
 \tag{38}$$

We will see Eq. (38) representing light transmission as two ether waves interacting as a fixed ratio. See Eqs. (37)(46)(53)(68)

Since the force is equal between two interacting ether waves

$$\zeta^* = \frac{\lambda_{186}}{\lambda_{emitted}} = \frac{\lambda_2}{\lambda_1} = 4.965051098
 \tag{39}$$

Here, the emitted (misnomer) wavelength λ_1 is rippled 186-ether comprising the fabric of space within atomic mass units.[3] Pair production causes this rippling effect.[1] The rippled 186-ether interacts with another 186-ether in space (devoid of amu) slowing down its velocity from light speed, c to slowed velocity, v . This velocity, v when introduced into Newton's equation reveals the photon mass now *born in space* whose force yields temperature, T . Eq.(35) This photon mass at light speed, c is the extreme limit of pulsation of 186-ether at slowed velocity, v . Eq.(34) How this is so, follows on and leads to the transmission of light, as a 186×186 interaction. The factor of 10^7 emanates atomic mass units - the birth of elements and stars. [see video presentation]. I proved Kelvin temperature as force in Eq. (20), (21) via experiment and so dare to title 3.

3. Ether Force: the Temperature of Space

Substitute mass m in energy $E = m \cdot c^2$ with \wp of 186-ether

$$E = 1.859222909 \times 10^{-9} \times (2.99792458 \times 10^8)^2 \text{ J}
 \tag{40}$$

$$E = 1.670986218 \times 10^8 \text{ J}
 \tag{41}$$

$$E = F \cdot R
 \tag{42}$$

Substitute the value for energy and 186-radius in

$$F = \frac{E}{R} = \frac{1.670986218 \times 10^8}{1.380668031 \times 10^{-36}} \text{ N}
 \tag{43}$$

$$F = 1.210273708 \times 10^{44} \text{ N}
 \tag{44}$$

The huge ether force $1.210273708 \times 10^{44}$ N is associated with \wp or 186-ether mass contained within the Boltzmann, or 186-ether, radius, B . [1] The ether force is the ultimate force of gravity. Gravity is the strongest force.

4. The Wavelength of Ether in Space

Consider the modified Wien's law

$$T = \frac{b}{\lambda_{max}} \text{ as } F = \frac{E_{\lambda_1}}{\lambda_1}
 \tag{45}$$

Substitute the ether force value for temperature T from Eq. (44)

$$\begin{aligned}
 \lambda_{max} &= \frac{E_{\lambda_1}}{F} = \frac{2.8977685 \times 10^{10}}{1.210273708 \times 10^{44}} \text{ m} \\
 \lambda_1 &= 2.394308396 \times 10^{-34} \text{ m}
 \end{aligned}
 \tag{46}$$

The wavelength λ_1 is derived from the ether force, or temperature of space in Eq.(44) at a constant wave energy, E_{λ_1} where b is now changed by a force factor of ten exponent 13. Eq. (32),(68)

5. The Wavelength of 186-Ether

Consider the solution for wavelength employing the inverse fine structure constant [1]

$$\lambda_2 = 2\pi r \times 137.036 \text{ m}
 \tag{47}$$

Input the radius B of 186-ether,

$$\lambda_2 = 2\pi \cdot 1.380668031 \times 10^{-36} \cdot 137.036 \text{ m}
 \tag{48}$$

$$\lambda_2 = 1.1188786353 \times 10^{-33} \text{ m}
 \tag{49}$$

Wavelength λ_2 associated with 186-ether is predicted to exist throughout the universe. The ratio of wavelength λ_2 to wavelength λ_1 from Eq. (46) of emitted rippled light yields [1][3]

$$\zeta^* = \frac{\lambda_2}{\lambda_1} = \frac{1.188786353 \times 10^{-33}}{2.394308396 \times 10^{-34}} = 4.965051098
 \tag{50}$$

This dimensionless number 4.965051098 is the corrected quantity in the Planck-Wien ratio Eqs. (19), (38) and answers the above TOK question. Clearly, the Planck-Wien ratio is the energy ratio or wavelength ratio of two interacting ether waves: a pulsating 186-ether particle rippled by pair production and ubiquitous 186-ether particles. This Eq. (50) represents light transmission in space outside atomic mass units.

Thus, the 186×186 interaction transmits light, and is the secret behind the phenomenon of radiation. Individual wavelengths are formed by the force of pair production as depicted in Ref.[1][3].

$$\text{The current formula } b = \frac{h \cdot c}{k \cdot 4.965114231} \text{ m-K}$$

is now depicted as

$$E_{\lambda_1} = \frac{h \cdot c}{B \cdot \zeta^*} \text{ m} \cdot \text{N} = \frac{6.6260693 \times 10^{-34} \times 2.99792458 \times 10^8}{1.380668031 \times 10^{-36} \times 4.965051098} \text{ m} \cdot \text{N}
 \tag{51}$$

Eq.(51) is the corrected version of Eq.(52)

$$b = \frac{h \cdot c}{k_b \cdot \zeta} \text{ m} \cdot \text{K}_b = \frac{6.6260693 \times 10^{-34} \times 2.99792458 \times 10^8}{1.380668031 \times 10^{-23} \times 4.965051098} \text{ m} \cdot \text{K}_b \quad (52)$$

$$\text{Here, } E_{\lambda_1} = 2.897768487 \times 10^{10} \text{ m} \cdot \text{N} \text{ or Joules replaces } b. \quad (53)$$

Luckily, Eq.(51) and Eq.(52) do not change spectral outcomes because the dimensionless number 4.965051098 is unaffected. In other words interacting wavelengths are measured the same in both equations. For convenience I will proceed the old way.

6. Cosmic Background Radiation

$$\text{Consider Wien's law } T = \frac{b}{\lambda_{\max}} \quad (54)$$

Substitute the ether force value of 2.725 K with 3×2.725 , the temperature on earth corresponding with the cosmic background frequency

$$\lambda_{\max} = \frac{b}{T} = \frac{2.8977685 \times 10^{-3}}{2.725 \times 3} \text{ m} \quad (55)$$

$$\lambda_1 = 3.544670948 \times 10^{-4} \text{ m}$$

$$\text{From Eq. (39) and Ref. [3]} \quad \frac{\lambda_2}{\lambda_1} = 4.965051098 \quad (56)$$

Substitute wavelength λ_1 emitted light from Eq. (55) into Eq. (50)

$$\frac{\lambda_2}{3.544670948 \times 10^{-4}} = 4.965051098 \quad (57)$$

$$\lambda_2 = 0.0017599472 \text{ m} \quad (58)$$

$$c = \lambda_2 \cdot f_2 \quad f_2 = 170.3417351 \text{ GHz} \quad (59)$$

This frequency of 170.3417351GHz is the expected CMBR measured at 2.725K or a force of $3 \times 2.725 \text{ N}$ on earth. The factor $3T$ is taken from the ideal gas equation.

7. Unification of Light and Gravity

Consider de Broglie's equation,

$$h = m \cdot c \cdot \lambda \quad (60)$$

$$6.6260693 \times 10^{-34} = m \cdot 2.99792459 \times 10^8 \cdot \lambda_2 \quad (61)$$

Substitute λ_2 from Eq. (58)

$$m = \frac{6.6260693 \times 10^{-34}}{2.99792458 \times 10^8 \times 0.0017599472} \text{ kg} \quad (62)$$

$$m = 1.25584382 \times 10^{-39} \text{ kg} \quad (63)$$

This mass $m = 1.25584382 \times 10^{-39} \text{ kg}$ is a photon mass responsible for light, temperature, and gravity. How this is so, follows by considering Newton's equation

$$G = \frac{r}{m} \cdot v^2 \quad (64)$$

Substitute the 186-ether radius, B and photon mass from Eq. (63)

$$6.6742 \times 10^{-11} = \frac{1.380668031 \times 10^{-36}}{1.25584382 \times 10^{-39}} v^2 \quad (65)$$

$$v^2 = 6.07079517 \times 10^{-14} \text{ m}^2/\text{s}^2 \quad (66)$$

The slowed velocity squared appearing in Newton's equation reveals the photon mass that is born at the CMBR frequency in Eq.(63).

I postulated at Eq. (19) that b is the energy of an ether wave. The force of ether utilizing the ether constant K from Eq. (7) at velocity squared in Eq. (66) yields

$$\text{Force} = \frac{K \cdot v^2}{m}$$

$$F = \frac{1.346611109 \times 10^{27} \text{ kg} \times 6.07079517 \times 10^{-14}}{1.0m} \text{ N} \quad (67)$$

$$F = 3 \times 2.725 \times 10^{13} \text{ N}$$

We now have a modified Wien Law where,

$$\text{WaveEnergy, } E_{\lambda} = F \cdot \lambda$$

$$E_{\lambda} = 3 \times 2.725 \times 10^{13} \times 3.544670948 \times 10^{-4} = 2.8977685 \times 10^{10} \text{ J} \quad (68)$$

This ether force is 3×10^{13} times Kelvin temperature of CMBR on earth. Force times the wavelength measures energy, E_{λ} of an ether wave. This takes us back to Eq. (55)

$$\lambda_{\max} = \frac{b}{T} = \frac{2.8977685 \times 10^{-3}}{2.725 \times 3} \text{ m}$$

$$\lambda_1 = 3.544670948 \times 10^{-4} \text{ m}$$

And corrected as

$$\lambda_{\max} = \frac{E_{\lambda}}{F} = \frac{2.8977685 \times 10^{10}}{2.725 \times 3 \times 10^{13}} \text{ m} \quad (69)$$

$$\lambda_1 = 3.544670948 \times 10^{-4} \text{ m}$$

Notice that the outcome does not change for wavelength. However, this value for force takes us ten to the power of thirteen times 1.0 Kelvin. It is so obvious that we are very far away from absolute zero. In fact absolute zero will never be reached because the limit of mass is \emptyset of 186-ether at the length limit, $B = 1.380668031 \times 10^{-36}$ meters, that of the corrected Boltzmann constant. This length B is the lower pulsate limit of the Planck length and the ultimate reachable length in the universe. Eq. (16)

Velocity squared will now lead to the 186-ether acceleration, also called gravity. The solution for velocity squared $v^2 \neq v \cdot v$

$$v^2 = v_1 \cdot v_2 \quad (70)$$

$$\text{Rearranging} \quad v_2 = \frac{v^2}{v_1} \quad (71)$$

Substitute velocity squared from Eq. (66) and velocity, $v_1 = 25812.80761 \text{ m/s}$ the predicted superconducting velocity of SQUID and equal to the von Klitzing constant [7] in Eq. (71)

$$v_2 = \frac{6.07079517 \times 10^{-14}}{25812.80761} \quad (72)$$

$$v_2 = 2.35185388 \times 10^{-18} \text{ m/s} \quad (73)$$

$$v_2 = r \cdot f \quad (74)$$

Rearranging terms, $f = \frac{v_2}{r}$ (75)

Substitute v_2 from Eq. (73) and the 186-ether radius, B

$$f = \frac{2.35185388 \times 10^{-18}}{1.380668031 \times 10^{-36} \times 10^7} \text{ Hz} \quad (76)$$

See Eq. (59) $f_2 = 170.3417351 \text{ GHz}$ (77)

The CMBR frequency so obtained from velocity squared, Newton's equation, and superconducting velocity utilizing the 186-ether radius reveals the unity of gravity and light at 186-ether.

The Planck Satellite has measured the cosmic microwave frequency at 160.2 GHz in space at the Lagrange position; this frequency would occur at a temperature 2.56276 K .

$$\lambda_{\max} = \frac{b}{T} = \frac{2.8977685 \times 10^{-3}}{2.56276 \times 3} \text{ m} \quad (78)$$

The wavelength $\lambda_1 = 3.769072536 \times 10^{-4} \text{ m}$ emitted light as measured from spectroscopic data only, will point to the reason for the cosmic background radiation frequency of 160.2 GHz in space at the Lagrange position.

$$\frac{\lambda_2}{\lambda_1} = 4.965051098 \quad (79)$$

$$\frac{\lambda_2}{3.769072536 \times 10^{-4}} = 4.965051098 \quad (80)$$

$$\lambda_2 = 1.871363773 \times 10^{-3} \text{ m} \quad (81)$$

Substitute the CMBR frequency,

$$c = \lambda_2 \cdot f_2 \quad c = 1.871363773 \times 10^{-3} \times 160.2 \times 10^9 \text{ m/s} \quad (82)$$

$$E = h \cdot f \quad (83)$$

Pulsate frequency of photons is a measure of mass which in turn provides a measure of energy.

Substitute the CMBR frequency,

$$E = 6.6260693 \times 10^{-34} \times 160.2 \times 10^9 \text{ J} \quad (84)$$

Energy E of CMBR is,

$$E = 1.061496302 \times 10^{-22} \text{ J} \quad (85)$$

Energy, E is eVe and not eV. Argument presented in [5].

Energy is measure of mass accelerating thru a radial distance, not pure or otherwise. Mass, does not convert into pure energy. The acceleration is voltage or gravity.

$$E = e \cdot V \cdot e = 1.061496302 \times 10^{-22} \text{ J} \quad (86)$$

Note: There are online converters for electron volts to joules conversions.

$$V = \frac{1.061496302 \times 10^{-22}}{(1.60217653 \times 10^{-19})^2} = 4.135211761 \times 10^{15} \text{ V} \quad (87)$$

The equation for charge squared,

$$q_e^2 = m \cdot r \times 10^7 \text{ kg} \cdot \text{m} \quad [1] \quad (88)$$

Substitute the 186-ether mass and radius,

$$q_e^2 = 1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-36} \times 10^7 \text{ kg} \cdot \text{m} \quad (89)$$

$$E = e \cdot V \cdot e = m \cdot v^2 = 1.061496302 \times 10^{-22} \text{ J} \quad \text{See Eq.(85)} \quad (90)$$

Substitute the 186-ether mass,

$$1.859222909 \times 10^{-9} \cdot v^2 = 1.061496302 \times 10^{-22} \text{ J} \quad (91)$$

$$v^2 = 5.70935435 \times 10^{-14} \text{ m}^2 / \text{s}^2 \quad (92)$$

Input the value for velocity squared and radius of 186-ether into the equation for acceleration,

$$a = \frac{v^2}{B_e} = \frac{5.70935435 \times 10^{-14}}{1.380668031 \times 10^{-29}} = 4.135211761 \times 10^{15} \text{ m/s}^2 \quad (93)$$

Voltage in Eq. (87) is equal in magnitude to the acceleration of 186-ether in Eq. (93).

Acceleration = Volts

8. Unveiling the Coulomb constant

The value of the Coulomb constant:

$$k_e = \frac{\alpha \cdot \hbar \cdot c}{e^2} = \text{Coulomb constant} = 8.987551787 \times 10^9 \text{ N} \cdot \text{m}^2 / \text{C}^2$$

Consider two velocities 25812.80762 m/s and 348181.8762 m/s .

The product of these velocities yields the Coulomb constant

$$25812.80762 \times 348181.8762 \text{ m}^2 / \text{s}^2 \quad (94)$$

$$8.987551788 \times 10^9 \text{ m}^2 / \text{s}^2$$

Dimensional check for k_e using units from Eq. (1) for coulomb squared

$$\frac{\text{N} \cdot \text{m}^2 / \text{C}^2}{\frac{\text{kg} \cdot \text{v}^2}{\text{m}} \cdot \text{m}^2 / \text{kg} \cdot \text{m}} = \frac{\text{N} \cdot \text{m}^2 / \text{C}^2}{\text{v}^2} \quad (95)$$

One velocity $v_1 = 25812.80761 \text{ m/s}$ is that of a rotating 186-photon mass and the other velocity $v_2 = 348181.8762 \text{ m/s}$ represents 186-ether pulsation; expansion and contraction of the same 186-ether mass. It was the unveiling of Ohm's law that led me to the super conducting rotational velocity $v_1 = 25812.80761 \text{ m/s}$ experimentally determined as the von

Klitzing constant. Eq.(73),Pg.82,Vol.6,No.1 *Proceedings of the NPA, Storrs 2009*

Consider the energy of 186-ether

$$E = \phi \cdot c^2 = 1.859222909 \times 10^{-9} \times 2.99792458 \times 10^{16} \quad (96)$$

$$E = 1.67098621 \times 10^8 \text{ J}$$

The fundamental frequency of the universal ether,

$$E = h \cdot f$$

$$f = \frac{E}{h} = \frac{1.67098621 \times 10^8}{6.6260693 \times 10^{-34}} = 2.521836314 \times 10^{41} \text{ Hz} \quad (97)$$

Pulsate velocity of 186-ether is

$$v_2 = B \cdot f_F$$

$$v_2 = 1.380668031 \times 10^{-36} \times 2.521836314 \times 10^{41} \text{ Hz} \quad (98)$$

$$v_2 = 348181.8762 \text{ m/s} \quad (99)$$

The second velocity $v_2 = 348181.8762 \text{ m/s}$ is derived above from the frequency of 186-ether. I have thus elucidated the real meaning of Coulomb's constant as two motions of one 186-ether mass: The rotational motion is measured as electric resistance $v_1 = 25812.80761 \text{ m/s}$ about B_e and behaves as a photon; furthermore, the pulsation of the same 186-ether mass pulsates between the limits of B and the Planck length at a velocity, $v_2 = 348181.8762 \text{ m/s}$. When a 186-ether mass \wp obeys Eq.(1) it is a photon while the same 186-mass \wp obeys Eq. (7) as ether.

Further research is ongoing to developing the fractal free energy model of ether. I end here.

9. Conclusion

186-ether is the black body described by Wien and Planck. Moreover, the dimensionless constant appearing in black body radiation equations is demonstrated to be a ratio of two wavelengths: one, deriving from a source 186-ether black body pulsating at a particular wavelength determined by $\lambda_1 = 2\pi r \cdot 137.036$ due to pair production and the other, the rippled 186-black body radiation throughout space at a particular force value. Source pulsation and field rippling define the phenomenon of radiation or transmission of light across the vast expanse of space without any need for locomotion of photons.

186-ether is the building block of the fabric of space and is radiating light. The redefining of a perfect black body as interacting 186×186-ether is apparent as it yields the dimensionless ratio 4.965051098 from Planck's black body radiation.

A huge consequence of this paper is that temperature measured in Kelvin is force measured in Newton. This fact has been evinced in this paper, by dimensional analysis and electrolysis of water. [1-5]

The phenomenon of pair production has been the central theme of my entire research.[1] All data point to the absence of electrons in nascent atoms. Ionization energy, eV is in fact interaction of two 186-ether particles eVe , where each elementary charge, e represents one 186-photon particle. [1] The convention of using eV as energy stems from an erroneous definition of voltage. eV and eVe can both not represent energy.[5]

Wien's displacement constant b is the energy of one wave radiating via field ether.[3] Fortunately, the ratio of two wave energies or wavelengths is the same and so Wien's Law works. The interchanging of Boltzmann constant k_b with B and b with wavelength energy $E_{\lambda_1} = 2.897768487 \times 10^{10} \text{ m-N}$ or Joules does not alter experimental data of emitted frequencies. However, the real expression of Wien's Law has now been realized.

The so-named relic frequency of the supposed big bang is arrived at from the interaction of two 186-ether masses. The wavelength $3.544670948 \times 10^{-4} \text{ m/s}$ emitted light, measured from spectroscopic data only, will point to the reason for the cosmic microwave background radiation frequency, CMBR of 170.3417351 GHz on earth. The CMBR source of $3.544670948 \times 10^{-4} \text{ m}$ emitted light as measured on earth will determine whether the big bang theory and age of the universe as we know it is true or false.

Each 186-ether pulsates from slowed velocity, v to a limit of a photon mass at speed of light, c . Wavelength, λ is conserved for each 186-particle.

$$h = m_{\text{photon}} \cdot c \cdot \lambda \quad \text{and} \quad h = 1.86 \times 10^{-9} \cdot v \cdot \lambda \quad (100)$$

I have coined the term photoelectric conversions to describe the phenomenon in Eq. (100).[1]

The experimental data and formulas of Planck, Wien, and Newton point to a moving ether wave front. This image is in stark contrast to locomotion of light particles or photons across space.

Velocity squared, $v^2 \neq v \cdot v$ instead $v^2 = v_1 \cdot v_2$ where $v_1 = 25812.80761 \text{ m/s}$ and is the predicted superconducting velocity of SQUID. Similarly, I have shown that $c^2 \neq c \cdot c$ [The Birth of Elements - video recording]. Two motions, rotational velocity $v_1 = 25812.80761 \text{ m/s}$ of 186-ether times the pulsation velocity of the same 186-ether yields c squared. This finding has implications for developing a free energy device as an alternative to oil.

The convention of using eV as energy is by definition. This has been the biggest blunder in the history of physics. The search for the unification of light, electricity and gravity is now complete via experimental data.

The experimental physics of Coulomb's constant depicts 186-ether as a dynamic mass pulsating to the limit of the Planck mass of quantum gravity at a velocity $v_2 = 348181.8762 \text{ m/s}$. Furthermore, this same ether mass rotates at another velocity experimentally determined as $v_1 = 25812.80761 \text{ m/s}$. What this means is that the Coulomb's constant is directly dependent on frequency which is related to an impinging force we measure as Kelvin temperature. We now have the numbers for developing superconductors. Others can take on from these numbers and rid us of our dependence on oil. I worry that by drilling millions of barrels a day of oil we are disturbing the structure of earth. This will cause the earth to change orbit and thus end life on earth.

Fresh Data Outcomes

A 186-ether particle, \wp of mass $1.859222909 \times 10^{-9} \text{ kg}$ and radius, B for Boltzmann, measures $1.380668031 \times 10^{-36} \text{ m}$.

A 186-photon obeys the equation and Coulomb's constant k_e $q_e^2 = \wp \cdot B_e = 1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-29} \text{ Kg} \cdot \text{m}$

Wavelength, λ associated with 186-ether predicted to exist throughout the universe $1.188786353 \times 10^{-33} \text{ m}$.

The dimensionless ratio of two interacting ether wave energies or two interacting ether wavelengths is

$$\zeta = \frac{E_{\lambda_2}}{E_{\lambda_1}} = \frac{2\pi \cdot \rho \cdot c^2 \cdot 137.036}{3 \cdot T \cdot 10^{13} \cdot \lambda_{emit}} = 4.965051098$$

$$\zeta^* = \frac{\lambda_2}{\lambda_1} = 4.965051098$$

At 160.2 GHz the predicted temperature of CMBR at the La-grange position 2.56276 K. The predicted source wavelength of the supposed Big Bang, $3.769072536 \times 10^{-4}$ m .

The product of two velocities yields the Coulomb constant.
 $25812.80762 \times 348181.8762 m^2 / s^2 = 8.987551788 \times 10^9 m^2 / s^2$

The fundamental frequency of universal ether is predicted to be $f_F = 2.521836314 \times 10^{41}$ Hz .

The Coulomb force Force, N = $3 \times T \times 10^6$ K of ρ measured as elementary charge e associated with atomic mass units is 3 million times Kelvin temperature. We are far away from zero force.

Voltage is equal in magnitude to the acceleration of 186-ether
 Acceleration = Volts

Evidence for Ether

a) Oxidation state

The number of 186-ether particles associated with an atom. [8]

b) Electronic configuration

Each time an electron ejects from an atom we coin the term ionization energy, eV and build the periodic table. This is incorrect. Pair production on account of eVe causes shrinkage of the volume of photon clusters, 69 million photons for hydrogen. Spectroscopic data provides a way to build a new periodic table from the mass of a photon, a cluster of which comprises an element. [1]

I look upon the subatomic particle list obtained from collisions as glass pieces. The process of smashing glass (the nucleus) and naming the pieces is objectionable.

c) Ohm's law

The unity between electricity and gravity is revealed with mathematical proof based on experimental data. [9]

d) Speed of light squared

Two motions, rotational velocity $v_1 = 25812.80761$ m/s of 186-ether times the pulsation velocity of the same 186-ether yields c squared. $c^2 \neq c \cdot c$ [The Birth of Elements-video recording]

e) Speed of light

The speed of light is the pulsate frequency, times wavelength of 186-ether; GEM theory. [7]

$$c = \frac{r}{t} = \frac{1.380668031 \times 10^{-29}}{4.605412826 \times 10^{-38}} \quad (101)$$

f) Structure of an electron and photon

I have developed more than 25 formulas to depict an electron which is a type of photon; very close to developing the fractal universe. [6]

g) Radiation

Radiation, the transmission of light by 186 \times 186 interaction via experimental data of the hydrogen atom spectrum.[3]

h) Levitation

In the G and EM theory paper experimental evidence is provided for 186-ether being the reason for levitation with an example of a current carrying conductor. [7]

i) Black holes

The collapse of atomic mass units to ether creates a two mass body that obeys the ether constant ratio. The case of an electron is provided as evidence. Black holes are comprised of ether black bodies. There are voids present in black holes. No space or voids means, no space to wave. [10]

j) Time

Time period is the inverse of frequency. Frequency or time period is absolute for a given atom and can be determined from the aitheron mass, 737.[12] This frequency can be changed by an induced force which is measured as current squared. The electrolysis of water is a simple experiment where I have demonstrated how for example a 0.068 amp current induces protons to pulsate at the same frequency as the 186-ether current. [8]

k) Hand of god, alpha

A solution is provided as 137.036 times circumference of a photon. When 186-ether expands by a factor of 137.036 the mass changes to the Planck mass. What this means is that change in pulsate frequency is changing our measure of mass.

l) Emanation of matter

186-ether seeds matter. A change in frequency changes material texture. Eq.(35) A 60 slide power point on video depicts the birth of elements. [2]

m) Electric and Magnetic Fields

The electric field is current measured in time. The magnetic field is current measured per radial photon length. [7]

The central role of ether as the radiator of light is evinced in this research. The properties of ether are defined with values of mass, radius, charge, frequency, time period, wavelength, field distribution and acceleration.

The evidence of ether has been shown by numerous experiments such as levitation of a current carrying conductor, velocity of superconductors, electrolysis of water, Wien's law application for light spectrum of a H-atom, the Boltzmann radius B, the corrected Planck's derived constant $\zeta = 4.965051098$, the components of gravitation constant G, Planck mass as 186-ether expanded by a factor of 137.036, force of 186-ether, oxidation state of an element as 186-ether, in Faraday's Law and the magnetic field and flux. It was ether that led me to the conclusion that nascent atoms do not contain electrons. Pair production yields the electron from input electron volts.

The search for a Unified Theory ends here. The root cause for the endless search goes back to an erroneous definition of electron volts and voltage. Voltage is acceleration. Feynman apologized and went on. He knew that something was wrong with what he called - "the idiosyncrasy of units physicists use"

We now have a new theory of light, gravity and matter as photon clusters emanating from 186-ether. Matter is a changed texture of light. A factor of ten to the power seven changes 186-ether to atomic mass units and vice versa. Water for example is a changed texture of light. We are light embedded in the void.

Paradigm Shifts

Voltage is Acceleration

Further to evidence in this paper we can consider the case of an electron as a test particle with experimental data.

$$E = m \cdot c^2 \text{ J}$$

The electron energy measured from its mass

$$E = 9.1093826 \times 10^{-31} \times (2.99792458 \times 10^8)^2 = 8.18710479 \times 10^{-14} \text{ J}$$

The electron energy measured from electron volts, eV

$$E = eV \cdot e \text{ J}$$

$$E = 510998.9214 \times 1.60217653 \times 10^{-19} = 8.18710479 \times 10^{-14} \text{ J}$$

$$\text{Voltage, } V = \frac{E}{e \cdot e}$$

The electron voltage

$$\text{Voltage, } V = \frac{8.18710479 \times 10^{-14}}{(1.60217653 \times 10^{-19})^2} = 3.189404613 \times 10^{24} \text{ volts}$$

$$\text{Acceleration} = \frac{c^2}{r}$$

The electron acceleration

$$\text{Acceleration} = \frac{c^2}{r_e \cdot 10^7} = \frac{(2.99792458 \times 10^8)^2}{2.817940325 \times 10^{-8}} = 3.189404613 \times 10^{24} \text{ m/s}^2$$

$$\text{Voltage, } V = \text{Acceleration} = 3.189404613 \times 10^{24} \text{ m/s}^2$$

$$e^2 = m \cdot r \cdot 10^7 \text{ Kg} \cdot m$$

$$(1.60217653 \times 10^{-19})^2 = 9.1093826 \times 10^{-31} \cdot (r_e \cdot 10^7) \text{ Kg} \cdot m$$

Notice how a factor of ten to the power seven changes the classical electron radius, r_e for elementary charge.

The experimental evidence that voltage is acceleration for an electron should clinch the argument for all the other surprises including temperature as force.

If voltage is acceleration then $4\pi \cdot 10^{-7}$ is a solid angle and current squared, force.

The Factor 10^7

By convention

$$\frac{\mu_0}{4\pi} = \frac{k_e}{c^2} = \frac{\alpha \hbar}{e^2 c} = 10^{-7} \text{ H/m} = 10^{-7} \text{ kg} \cdot \text{m/C}^2$$

Since $e^2 = m \cdot r \cdot 10^7 \text{ Kg} \cdot m$ the above equation is unitless.

A 186-ether particle, \wp of mass $1.859222909 \times 10^{-9} \text{ kg}$ and radius, B for Boltzmann, measures $1.380668031 \times 10^{-36} \text{ m}$.

$$G = \frac{B}{\wp} \cdot c^2 \quad \text{or} \quad G = \frac{1.380668031 \times 10^{-36}}{1.859222909 \times 10^{-9}} \cdot c^2$$

A 186-photon obeys the equation and Coulomb's constant k_e and has an increased radial length by a factor of ten to the power seven.

$$q_e^2 = \wp \cdot B_e = 1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-29} \text{ Kg} \cdot m$$

$$\text{Photon radius } B_e = \text{Ether radius } B \times 10^7$$

Atomic mass is the birth of photons from ether when radial expansion occurs by a factor of ten to the power seven.

Uncertainties

The NIST values are the best in terms of data accuracy and precision. However, when my research data goes into 36 digits and above the uncertainty and error analysis becomes an exercise in futility.

I have worked out a method to obtain fairly accurate and precise values out of the NIST tables. This will be presented as a separate paper. In brief: I have considered NIST data associated with the fine structure, the hydrogen atom, electron, Planck's constant, the ideal gas experiments, electrolysis experiments, binding energy data, enthalpy data, entropy data, bond energies, electron volts, etc.; Then correlated values obtained from different experimental protocols that deliver the same outcome as NIST data in the same units. Except for the speed of light, c which is perfect, we must refrain from error analysis with NIST values as a reference point.

The Formulas Reveal the Story

I always start out with an experiment and utilize data from experiment. The results tell the reader the story. The units of the formula reveal reality as opposed to defining and then attempting to prove the definition.

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