The Fractal Structure of Light & Emanation of Matter
A pulsating ether sphere ✵ rolling in a spinning pulsating ether torus Ѣ

A photon **0** is a torus. Comprised of aitherons, **ǽ** the photon is measured in electron volts. When *eVe* energy is supplied a single photon yields an electron-positron pair. Tubular chains of photons coil to form an element measured as atomic mass. Helices of the same element form a 186-photon ∷ which is the associated elementary charge *e* or oxidation state of that element. A chain of 186-photons in the form of a slinky comprise an ether torus Ѣ. The structure of matter is portrayed in terms of mass, radial length and frequency or time period. The components of an atom are depicted below and each bracket sources the empirical measurement.

737aitheron (h) ↔ Photon torus (eVe) ↔ Element torus (amu) ↔ 186 photon torus (q_e) ↔ Ether torus (K)

A pulsating ether sphere ✺ is the oscillator the source of mass, temperature and electromagnetism.

INTRODUCTION

Aether in ancient Greek, represents a creative shining light. In the solid elastic theory of early modern science an ether was argued to be a homogenous medium responsible for everything from gravity and the transmission of light to heat and electric charge.

The *ether* I conceive of is a pre-existent medium *out of which* heavenly bodies are engendered, *basic to* light as electro-magnetism, to the atom, and so, basic to the gravitational forces in which bodies float suspended and in which we all exist in its dense etheric sea; thus the material world at any scale would have to be *less dense* than the etheric.

186-Ether

$$E = \frac{Gmm}{r} = \frac{c^2 \times 10^{-7} \times q \times q}{r} \quad \text{[Assumption]}$$

If elementary charge, $\quad q = 1.60217653 \times 10^{-19} C$

Then $m = 1.859222909 \times 10^{-9} kg$ ether

If elementary charge, $q = 1.0C$

Then $m = 1.160435741 \times 10^{10} kg$ ether

In other words $6.24150948 \times 10^{18}$ *particles* of 186-ether comprises $1.0C$ charge and equals $1.160435741 \times 10^{10} kg$ mass.

The first practical breakthrough in this understanding came when, *pace* Newton, I observed that the universal gravitational constant, *G*, can be factored into the ratio, $G = R\, c^2 / M$ to produce an ether constant ratio, R / M. The ether constant ratio opened the gates on new correspondences and unities within the measurable physical world.

$$c^2 / G = M / R = 1.346611109 \times 10^{27} \text{ kg/m}$$

The Etheric Field

Myriads of $1.859222909 \times 10^{-9}$ kg comprise the etheric sea and each particle is represented as,

$$K = \frac{M}{R} = \frac{1.859222909 \times 10^{-9}}{1.380668038 \times 10^{-36}} = 1.346611109 \times 10^{27} \text{ kg/m}$$

The Gravitational constant, G is constant because of the above ratio involving 186-ether. The ether ratio, *K* will yield the entrained ether associated with atomic mass such as earth, protons, elements etc.

Photon as Charge, q

For a charged particle, the parameters of mass and radius of this photon body are represented as,

$$q^2 = M \times R \times 10^7$$

$$(1.602176537 \times 10^{-19})^2 =$$

$$1.859222909 \times 10^{-9} \times 1.380668031 \times 10^{-36} \times 10^7$$

The radius of this 186-ether particle perfectly matches the Boltzmann Constant: it is this body of a radius of $1.380668031 \times 10^{-36}$ and measurable ether mass of $1.859222909 \times 10^{-9}$ kg that affords us an elegant solution to the deep problem of a unified gravitational and electric force.

Photon clusters comprise an element. A cluster of the same element comprise the 186-photon mass. A specific equation for 186-photon mass, ℘

$$q_e^2 = \wp \cdot B \cdot 10^7 \, Kg \cdot m = \wp \cdot B_e Kg \cdot m$$

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

Source of Boltzmann's Constant

The value of the 186-ether radius *B* is 10^{-13} meters less than the value of the Boltzmann's constant, *k*.

$B = 1.380668031 \times 10^{-36}$ m is the ether radius and

$k = 1.380668031 \times 10^{-23}$ dm Boltzmann's constant

$B_e = 1.380668031 \times 10^{-29}$ m is the photon radius

The apparent difference between Boltzmann's constant and the Boltzmann radius is one of units only. In the ideal gas equation, volume is measured in $dm^3 \, or \, L$ so that the conversion to meters comes about by a factor of 10^{-3}. The conversion to kilograms from grams is by a factor of 10^{-3}. The Kelvin temperature scale is arbitrary. The factor appearing in the equation for charge squared is 10^{-7} so the powers add up to 10^{-13}. Thus the Boltzmann constant is identical with the ether radius.

Furthermore, wave-particle duality is resolved in the following wave equation.

Ether as a Wave

The equation of a wave is $\lambda = 2\pi \times R \times 137.036$. Here radius, R is the photon radius that ripples ether at large at the wavelength lambda.

To begin with photons are particles with mass, charge, radial length, ether and pulsate about a mean position. Photon pulsate motion is picked up as an ether wave on the laboratory detector screen as fringes. The screen is made up of matter which is basically clusters of photons about seed 186-ether. The arrival of the ether wave front orchestrates photons in the material of the detector to pulsate at new parameters of frequency, wavelength and there is a redistribution of photon mass and contained ether. Photon particles generate ether waves. Myriads of 186-ether masses comprise the etheric sea, which is the source of gravitational and electromagnetic field waves. Through pulsations, source photon bodies generate the radiation of waves in this ambient ether. These etheric radiation waves are ripples of the 186-field particles that have been modeled by the frequency of the source photon, also called the wave-maker, or signaler.

Normally, the locomotion of particles is associated with *convection* currents; that is to say, showers of particles that travel in locomotion through space can be treated as a convection current and not radiation. Cosmic rays are the well-known example of convection. A point to note here is that these showers or swarms of particles travel as matter waves and arrive, as they are meant to, as particles. This must be visualized in stark contrast to the phenomenon of light *radiation* where 186-field particles change shape about a mean position, that is, undergo mass contraction and expansion realized as a wave front of the etheric sea.

The ether wave front travels at the speed of light, *c*. Evidence for the speed of light, *c*, related to the pulsation of a source photon: mass distributed within a time-period for one cycle for a photon is,

$$mass \times timeperiod \times 137.036$$
$$= 0.7372496364 \times 10^{-50} \, kg.s$$

For an electron, the speed of light, *c*, is a connection between the light's *wavelength* and its wave frequency,

$$c = \lambda \times f, \quad f = \frac{2.99792458 \times 10^8}{2\pi R_e \times 137.036},$$

$$f = 0.169320307 \times 10^{22} \, s^{-1}$$

$$9.1093826 \times 10^{-31} \times 5.905966129 \times 10^{-22} \times 137.036$$
$$= 0.7372496364 \times 10^{-50} \, kg.s$$

The math clearly establishes a correlation between the speed of light, *c*, and the pulsation of the source photon (or electron, which is a type of photon). This source photon vibrating at a particular frequency, *f*, ripples ether at-large.

The ether model resolves the concept of charge, *q*, as photon mass or electron mass pulsating about a mean volumetric radius.

Furthermore, the effects of this charge, *q*, as pulsation, bring about the rippling of the ether contained within the photon body and also at the same time bring about the rippling of the ambient ether outside the photon in erstwhile "empty space". This outgoing rippling is what we call *etheric waves*. These waves have a wavelength, frequency, and travel at the speed of light, *c*. The wave front *radiates* through 186-field ether mass or etheric sea.

Essential for the right wavelength propagation through ether is the slowed velocity, *v*, of pulsation of the 186-ether masses comprising the field.

$$\lambda = \frac{h}{186 \times v}$$

The wavelength *for a wave* is

$$\lambda = 2\pi \times r \times 137.036$$

where *r* is the radius of the photon body that experiences the 186 force due to pulsate velocity, *v*.

For an *etheric wave*, the speed of light, *c*, is generated by wavelength, λ, within the time-period, *t*. The time-period, *t*, is the same as that of the pulsation of the source photon.

The speed of light *in ether* is $c = \dfrac{\lambda}{t}$

Electric Field, *E*

In other words, the electric field, *E*, is actually caused by the pulsating $1.859222909 \times 10^{-9} \, kg$ ether mass exerting a force on the particle embedded in it. *E* is a property of the electric field wherein the particle is embedded and mathematically measured as, $E = \dfrac{I}{t} = \dfrac{F}{q}$, where current, *I*, is the momentum of $1.160435741 \times 10^{10} \, kg$ etheric mass per one coulomb charge in time, *t*.

Magnetic Field, *B*

However, further analysis in this paper defines a magnetic field as change in current, *I*, within changing radial length, *r*, of a pulsating photon.

Magnetic field, $B = \dfrac{I}{r}$

Resistance, $\quad R = \dfrac{I}{186}$

A misnomer, because it is velocity of 186-ether; As we shall see later the resistance of superconductors is velocity that provides the solution to E=mc2.

Ether Force

Energy, $E = mc^2$

Substitute the mass of 186-ether for *m*,

$$E = 1.859222909 \times 10^{-9} \times \left(2.99792458 \times 10^8\right)^2 J$$
$$E = 1.670986218 \times 10^8 J$$
$$E = F \times R$$

Substitute the value for energy and 186 radius,

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

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

The huge ether force of $1.210273708 \times 10^{44} N$ is associated with 186-ether.

The root of this 186-ether force is current, I.

$\Phi_0 = BA$

Substitute B with current, I, per 186 radius, r,

$\Phi_0 = \dfrac{I}{r} \times A$

I = root of $1.210273708 \times 10^{44} \times 10^{-7}$

The factor of 10^{-7} is for voltage, $V = a \times 10^{-7}$ and voltage is proportional to current, I

$I = 3.478898832 \times 10^{18} A$

$\Phi_0 = \dfrac{3.478898832 \times 10^{18}}{1.380668031 \times 10^{-36}} \times A \ Wb$

$\Phi_0 = 2.519721434 \times 10^{54} \times A \ Wb$

$A = 8.206596204 \times 10^{-70} m^2$

$A = \pi \times R^2 \times 137.036$

This formula for area, A, was arrived at by dividing the area, A by the area of a circle.

$A = \pi \times (1.380668031 \times 10^{-36})^2 \times 137.036 \ m^2$

$A = 8.206596204 \times 10^{-70} \ m^2$

$\Phi_0 = \dfrac{3.478898832 \times 10^{18}}{1.380668031 \times 10^{-36}} \times 8.206596204 \times 10^{-70}$

$\Phi_0 = 2.067833636 \times 10^{-15} Wb$

Magnetic Flux Quantum, Φ_0, is thus giving light to the structure of the 186-ether/photon. Furthermore, the basis of the speed of light upon which all other physical constants depend upon is now illuminated.

The Source of Speed of Light, c

A well established equation for charge,

$q = I \times t$

Substitute value for current ,

$t = \dfrac{q}{I} = \dfrac{1.60217653 \times 10^{-19}}{3.478898832 \times 10^{18}}$

$t = 4.605412826 \times 10^{-38} s$

This is the time, t, for current to flow through the radial distance of 186, ether mass

$c = \dfrac{r}{t} = \dfrac{1.380668031 \times 10^{-29}}{4.605412826 \times 10^{-38}} \ m/s$

$c = 2.99792458 \times 10^8 \ m/s$

Thus the speed of light is the pulsate speed of 186.

The Von Klitzing Constant

Von Klitzing constant of super-conductors, Rk, in Ohms, $25\,812.807\,557(18)\,\Omega$, is, in fact, the velocity per unit charge of 186.

If we consider the wavelength of 186,

$\lambda = 2\pi \times r \times 137.036$

$\lambda = 2\pi \times 1.380668031 \times 10^{-36} \times 137.036$

$\lambda = 1.188786353 \times 10^{-33} m$

Then, for time, t, velocity, v,

$v = \dfrac{\lambda}{t} = \dfrac{1.188786353 \times 10^{-33}}{4.605412826 \times 10^{-38}}$

$v = \dfrac{\lambda}{t} = 25812.80761 m/s$ **Von Klitzing constant**

Herein lies the meaning of and cause of superconductivity.

$c = \dfrac{r}{t} = \dfrac{1.380668031 \times 10^{-29}}{4.605412826 \times 10^{-38}} = 2.99792458 \times 10^8 m/s$

Thus the speed of the wave front generated by 186 is the Von Klitzing constant while the speed of light is the pulsate speed of 186.

Gravity

Gravity arises from acceleration of ether

The ether mass contained within a proton is shown to accelerate at 9.8 m/s².

Proof

Acceleration, $a = \dfrac{v^2}{r}$

$v^2 = a\,r = 9.8 \times 1.5347 \times 10^{-18}$

$v = 3.878148841 \times 10^{-9}$

$I = 1.160435741 \times 10^{10} \times 3.878148841 \times 10^{-9}$

$I = 45.00342524 A$

Current is the momentum of one coulomb of ether

$I^2 = 2025.308283 \ N$

$F = I^2 \times 10^7 \ N = 2.025308283 \times 10^{10}$

Force is the acceleration of ether mass

$M = \dfrac{F}{a} = \dfrac{2.025308283 \times 10^{10}}{9.8}$

$M = 2.066641105 \times 10^9 \ kg$ [the ether mass]

The ether mass contained within a proton is obtained from the ether constant ratio {ref. 1}.

$\dfrac{m}{r} = 1.3406611109 \times 10^{27} \ kg/m$

$m = 1.534697799 \times 10^{-18} \times 1.346611109 \times 10^{27}$

$m = 2.066641105 \times 10^9 \ kg$

Gravity arises from acceleration of ether

Heat, H

A common definition of heat is that it is a form of energy associated with atomic or molecular motion. Heat can be transmitted through solid and fluid media by conduction, through fluid media by convection, and through empty space or quantum vacuum by radiation.

Radiant heat is the energy of 186

Heat is re-defined as the energy of 186 mass. Since 186 mass is the building block of ether, the phenomenon called *radiation* is energy transfer across the ether fabric, or etheric sea. Experimental data from thermodynamics prove the connection between temperature, acceleration, and mass as related to 186 heat energy. The final solution of heat is now revealed. The entire derivation is available in the *Proceedings of the NPA 2009, Storrs.*

Proof

By convention heat, $H = I^2 \times R \times t$

$H = (7.779888747 \times 10^{-13})^2 \times 4.184484125$

$\times 10^{-4} \times 2.059382315 \times 10^{-7}$

$H = 1.859222909 \times 10^{-9} \times \dfrac{v^2}{q}$

Heat is now shown to be the energy of one coulomb of ether.

$H = 1.160435741 \times 10^{10} \times (6.70428225 \times 10^{-23})^2 \; J/C$

$H = 5.215857007 \times 10^{-35} \; J/C$

Temperature is Force

Problem

At 300 Kelvin, the speed of hydrogen gas is measured by experiment to be 1927.31 meters per second and demonstrates the kinetic theory of gases formula to be correct.

$m \times v^2 = 3 \times k \times T$

$2 \times 1.672622216 \times 10^{-27} \times 1927.31^2 = 3 \times$

$1.380668031 \times 10^{-23} \times 300$

$eVe = mv^2$

$V = a \times 10^7 = m \times \dfrac{v^2}{e^2}$

$V = 2 \times 1.672622216 \times 10^{-27} \times 1927.31^2 \times \dfrac{1}{e^2}$

Acceleration, a $= 4.840723482 \times 10^{11} \; \text{m/s}^2$

$F = m \times a$

$F = 1.859222909 \times 10^{-9} \times 4.840723482 \times 10^{11}$

$F = 3 \times 300 N$

The hydrogen molecule is propelled by the force of undulating particles of the 186-ether mass and this is postulated to be the basis for Brownian motion.

The participation of 186-ether in electromagnetic phenomena and gravity has been evinced with many experimental examples in this research. The meaning of heat as joules per coulomb is exact science.

Constants, Definitions and Symbols

Having introduced 186-ether, I now elaborate its relationship of this ether mass $\wp$ to other well established physical constants follow.

$m \equiv \sqrt{\alpha} \, m_{Pl} = \sqrt{\dfrac{\alpha \hbar c}{G}} = \sqrt{\dfrac{k_e}{G}} \, e = \wp = 1.859222909 \times 10^{-9} \; \text{kg}$

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

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

$e \equiv \text{Charge constant} = 1.60217653 \times 10^{-19} \; \text{C}$

$k_B \equiv \text{Boltzmann constant} = 1.380668031 \times 10^{-23} \; \text{J/K}$

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

$\alpha \equiv \text{Fine Structure Constant} = 1/137.036$

$k_e \equiv \dfrac{\alpha \hbar c}{e^2} = \text{Coulomb constant} = 8.987551787 \times 10^{9} \; \text{N-m}^2/\text{C}^2$

$G = \dfrac{1.380668031 \times 10^{-36}}{1.859222909 \times 10^{-9}} \cdot c^2 = \dfrac{B}{\wp} \cdot c^2$

$q^2 = massofphoton \times radiusofphoton \times 10^7$

$q^2 = \wp \cdot B \times 10^7$

737 Aitheron æ

Aitherons are ether particles comprising the photon surface. A 737 aitheron mass, æ is predicted to be $7.372496378 \times 10^{-51} kg$ with a mean volumetric radius of $5.474851892 \times 10^{-78} m$. The energy of an aitheron equals Planck's constant in magnitude. The frequency of an aitheron is one second. A suggestion here, that this fact could be used as a measure of Universal absolute time period. Since the frequency or time period is one second the velocity V_{RK} of an aitheron particle $25812.8075 m/s$ is its acceleration. The velocity, V_{RK} corresponds with the resistance measured in superconductors. Resistance measured as $25812.8075 \, ohms$ is the superconducting velocity $25812.8075 m/s$ of an aitheron particle. This phenomenon of equal magnitudes for resistance and velocity is further evidence that voltage is acceleration, that resistance is velocity per charge, and current squared is force.

Von Klitzing Constant

Klaus von Klitzing was awarded the 1985 Nobel Prize in Physics for his discovery of the integer quantum Hall effect. The von Klitzing constant, R_k named after him measures resistance, $25812.807449(86)\Omega$ or inverse of one quantum electric conductance,

$R_k = \dfrac{h}{e^2} \Omega$

This equation may be simplified as follows,

$R_k = \dfrac{h}{e^2} \Omega = \dfrac{m \cdot v_{RK} \cdot r}{m \cdot r} = v_{RK}$

$R_k = v_{RK}$

It is thus very clear that by the current paradigm resistance is velocity.

Planck's constant, h may be written as,

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

If a condition of one second is imposed,

$h = E \cdot t = E \cdot 1s$

The energy of an aitheron mass equals Planck's constant in magnitude under the imposed condition of one second.

$E = m \cdot c^2$

$E = h \cdot t$

$h = m \cdot c^2 \cdot 1s$

Rearranging terms,

$m = \dfrac{h}{c^2 \cdot 1s}$

$m = 7.372496378 \times 10^{-51} kg \equiv 737 nickname$

Utilizing

$E = eVe = 7.372496378 \times 10^{-51} kg \cdot c^2$

$E = 6.6260693 \times 10^{-34} J$

$Volt, V = \dfrac{E}{e^2} = 25812.8075 m/s^2$

$V = volts = acceleration = velocity / 1s$

The velocity V_{RK} of an aitheron particle is its acceleration since the frequency or time period is one second. The velocity, V_{RK} corresponds with the resistance measured in superconductors. Resistance measured as ohms is the velocity 25812.8075m/s of an aitheron particle.

Photon ❶

A photon is comprised of aitherons. The frequency of a photon equals the number of aitheron particles that constitute its toroidal surface. This photon mass is obtained from input ionization energy. Pair production arises from input ionization energy. The equation below represents the relationship between elementary charge, e, the photon mass, m and mean volumetric radius, r to the center of the photon torus.

A generalized equation for charge squared

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

Pair Production
No electrons in nascent atoms

This proof is crucial in the omission of an electron in the fractal model of light. Emanation of nascent atoms from photon clusters is described.

$q^2 = $ mass of photon $\times$ radius of photon $\times 10^7$

$q^2 = 2.425434789 \times 10^{-35} \times 1.058354422 \cdot 10^{-10} \times 10^7$
  [for hydrogen]

$q^2 = 3.421277314 \times 10^{-26} \times 0.7502956931 \times 10^{-19} \times 10^7$
  [for 13.6 eV]

$q^4 = 2.425434789 \times 10^{-35} \times 1.058354422 \times 10^{-10} \times 10^7 \times$
  $3.421277314 \times 10^{-26} \times 0.7502956931 \times 10^{-19} \times 10^7$

$q^2 = \pm [9.1093826 \times 10^{-31} \times 2.81794029 \times 10^{-15} \times 10^7]$

Clearly, an electron-positron of $9.1093826 \times 10^{-31}$ kg mass with a radius of $2.817940325 \times 10^{-15}$ m is created artificially by a union of two photon masses namely $3.421277314 \times 10^{-26}$ kg and $2.425434789 \times 10^{-35}$ kg. Charge squared has two outcomes of $\pm 1.60217653 \times 10^{-19}$ C.

This invalidates the presence of an orbital electron in the ground state hydrogen atom even while the atom is still the arena for electron-positron pair creation by fusion of two photons under 13.6056923 eV stress.

186-photon ⁂

Photon clusters comprise an element. A cluster of the same element comprise the 186-photon mass. A specific equation for 186-photon mass, $\wp$

$q_e^2 = \wp \cdot B \cdot 10^7 Kg \cdot m = \wp \cdot B_e Kg \cdot m$

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

Wavelength λ

A generalized equation for wavelength of light

$$\lambda = 2\pi \cdot r \cdot 137.036 m$$

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

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

Ether sphere, ✳ in a spinning ether torus, Ђ

Ether is a twin mass: an oscillator, a rolling ether sphere, ✳ in a spinning ether torus, Ђ. The interaction of the sphere and torus is perfectly elastic. 186-photons link to form a very long convoluted tube that defines and shapes the ether torus. Just as a photon obeys the charge squared equation, so must ether sphere obey the ether constant ratio, K in the equation below. The ether sphere is responsible for absolute temperature. The acceleration of the ether sphere is constant at, $a = 6.509567532 \times 10^{52} m/s^2$.

Entrained 186-Ether ℭ

186-ether mass, $\wp$ obeys the ether constant ratio, K

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

The gravitation constant, G is now factored into a 186-ether mass of $1.859222909 \times 10^{-9}$ kg and radius, B for Boltzmann, measuring $1.380668031 \times 10^{-36}$ m,

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

$$K \cdot G = c^2$$

Atomic mass or molecular mass is negligible compared with the mass of entrained ether.

Entrained Ether for Earth

Radius of Earth 6.371 × 10⁶ m

$Ether = 1.346611109 \times 10^{27} \times 6.371 \times 10^6 = 8.57926 \times 10^{33} kg$

Force of entrained ether F = m a

$F = 8.57926 \times 10^{33} \times 9.82$

$F = 8.42483332 \times 10^{34} N$

Force, F of earth mass, m oscillators F = m a

$$F = m \cdot \frac{c^2}{r}$$

$$F = 8.42483332 \times 10^{34} = m \cdot \frac{c^2}{6.371 \times 10^6}$$

$$m = 5.9748 \times 10^{24} kg$$

Black Bodies

The ether oscillator is the black body radiator described by Planck and Wien. The ether oscillator rolls through 360 degrees 137.036 times per second. The energy associated with this motion corresponds with the wave length emitted by black bodies described by Planck and Wien. Furthermore, the oscillator is responsible for the measure of temperature and mass.

The ratio of the Planck-Wien constants is now depicted below as energies of two interacting ether waves. Black body radiation is the relationship between the energy of a torus and the force thru its wavelength.

$$\zeta = \frac{E_{\lambda_2}}{E_{\lambda 1}} = \frac{2\pi \cdot \wp \cdot c^2 \cdot 137.036}{3 \cdot T \cdot 10^{13} \cdot \lambda_{emit}} = 4.965051098$$

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

Each ether wave is a twin mass, an oscillator within a torus. So far, the oscillator, ✳ has been described. And earlier it must be recalled the ether torus, Ђ is comprised of aitherons, photons, and a cluster of the same element.

Node in Orbitals

The difficulty with quantum orbitals lies in the presence of nodes for p d and f type of orbitals. The trajectory of the electron has a zero probability of existence at the node. Yet the electron resides elsewhere in the region of density depicted as a cloud. The ether sphere in a spinning torus creates orbitals without the need for a node. Yet in one plane a node is present by diagram. However, the ether sphere has many a trajectory of an 8 or an O which is a consequence its own velocity and the rotary velocity of the ether torus, Ђ. A Spirograph is a close analogy.

Frequency, f

Consider the energy of 186-ether

$$E = \wp \cdot c^2 = 1.859222909 \times 10^{-9} \times 2.99792458 \times 10^{16}$$

$$E = 1.67098621 \times 10^8 J$$

The fundamental frequency of the universal ether,

$$E = h \cdot f$$

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

Pulsate velocity of 186-ether is

$$v_2 = B \cdot f_F$$

$$v_2 = 1.380668031 \times 10^{-36} \times 2.521836314 \times 10^{41} Hz$$

$$V_{B_e} = v_2 = 348181.8762m/s$$

The second velocity $v_2 = 348181.8762m/s$ is derived above from the frequency of 186-ether.

Coulomb's Constant k$_e$

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 $v_1 = 25812.80761$ 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, $v_2 = 348181.8762m/s$. When a 186-ether mass $\wp$ obeys the charge squared equation it is a photon; while the same 186-mass $\wp$ obeys the ether constant ratio, K it is ether.

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

$$V_{RK} = v_1 = 25812.80754m/s$$
$$V_B = v_2 = 348181.8762m/s$$

$$k_e = V_{RK} \times V_B$$

$$k_e = 3.481818773 \times 10^5 \times 25812.80754m^2/s^2$$

Velocity squared, V^2
$$v^2 = 25812.80754 \times v_2$$

$$V_{RK} = v_1 = 25812.80754m/s$$

$$v_2 = B_e \times f$$

Solution to $E = m \times c^2$

Energy, E is a measure of ether mass, m accelerated thru a distance, r. Mass does not convert to energy pure or otherwise. Acceleration, a is due to speed of light squared, c^2. The speed of light squared, c^2 can be further deconstructed into two velocities, namely the Von Klitzing constant, V_{RK} of $25812.80761m/s$ and the pulsate velocity, v_2 that of 186 ether.

Here, $v_2 = 3.481818763 \times 10^{12} m/s$

$$c^2 = v_1 \times v_2 = V_{RK} \times V_{AE}$$
$$c^2 = 25812.80761 \times 3.481818763 \times 10^{12} m^2/s^2$$

The pulsate frequency, f of 186 ether gives rise to velocity, v_2. Similarly velocity squared, v^2 of any photon is derived out of its inherent frequency, f of electromagnetic radiation to yield velocity, v_2 and velocity, v_1 which is V_{RK}.

Proof

$$c^2 = V_{RK} \times V_{AE}$$
$$c^2 = 25812.80761 \times 3.481818763 \times 10^{12} m^2/s^2$$
$$c = \frac{r}{t} = \frac{1.380668031 \times 10^{-29}}{4.605412826 \times 10^{-38}} = 2.99792458 \times 10^8 m/s$$
$$v_1 = \frac{\lambda}{t} = 25812.80761m/s$$
$$v_2 = \frac{r}{t} = \frac{1.380668031 \times 10^{-29}}{t}$$

$$t = \frac{1.380668031 \times 10^{-29}}{3.481818763 \times 10^{12}} = \frac{1}{f}$$

$$f = 2.521836303 \times 10^{48}$$

This frequency, f is that of an aitheron. Notice that the trajectory is about B_e.

$$E = h \times f = 6.6260693 \times 10^{-34} \times 2.521836303 \times 10^{48}$$

$$E = 1.670986211 \times 10^{15} J$$

$$E = m \times c^2 = 1.859222909 \times 10^{-9} \times (2.99792458 \times 10^8)^2$$

$$E = 1.670986211 \times 10^{15} J$$

The equation E=mc² has been interpreted as mass converting to pure energy at light speed, c. This interpretation is incorrect. Energy is only a measure of mass accelerating through a distance. Similarly, force is a measure of accelerating mass. Mass, does not convert in-to force.

The speed of light squared, c^2 is not c x c. Instead, as depicted as $c^2 = V_{RK} \times V_{AE}$.

Here both velocities have been experimentally measured.

$$E = m \times c^2 = m \times 3.481818773 \times 10^{12} \times 25812.80754$$

The velocity, V_{RK} of an aitheron particle, $25812.8075 m/s$ is its acceleration since the frequency or time period is one second. The velocity, V_{RK} corresponds with the resistance measured in superconductors. Resistance measured as 25812.8075 ohms is the velocity $25812.8075 m/s$ of an aitheron particle.

Similarly, $v_2 = v_{AE} = 3.481818773 \times 10^{12}$ is the distance travelled by the rolling ether sphere in one second within the ether torus.

Thus, $E=mc^2$ takes on a new meaning in terms of the ether sphere of ether mass m having two simultaneous motions, namely, a rolling motion through the torus and a rotation along with the spinning torus. This well known equation finds its origins in ether.

Gravitation constant, G

The gravitation constant G is factored below.
At the speed of light squared c^2 for ether,

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

$$G = \frac{B}{\wp} \cdot v_{RK} \cdot v_{AE}$$

At the slowed velocity squared v^2 of a photon mass m and mean volumetric radius r as derived from the charge squared equation

$$G = \frac{R}{m} \cdot v^2 = \frac{R}{m} \cdot v_{RK} \cdot v_{AE}$$

Here, v_2 represents the rolling velocity of the ether sphere. The frequency of its rotation inside the ether torus yields v_2

$$v_2 = B_e \cdot f$$

$$v_2 = 1.380668031 \times 10^{-36} \times 10^7 \cdot f$$

$$G = \frac{r}{m} \cdot v^2 = \frac{B}{photonmass} \cdot v_{RK} \cdot v_2$$

$$v_2 = \frac{B_e}{t}$$

De Broglie Equation

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.

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

I have coined the term photoelectric conversions to describe the phenomenon in the equation above. The depiction of the birth of mass is possible due to this elegant equation.

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

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

$$E = 510998.9214 \times 1.60217653 \times 10^{-19}$$

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

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

The electron voltage

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

$$V = 3.189404613 \times 10^{24} volts$$

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

The electron acceleration

$$Acceleration, a = \frac{c^2}{r_e \cdot 10^7}$$

$$a = \frac{(2.99792458 \times 10^8)^2}{2.817940325 \times 10^{-8}} = 3.189404613 \times 10^{24} m/s^2$$

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

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

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

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.

Acceleration within the Torus tube space

The acceleration of ether in tube space is calculated as follows

$$a = \frac{c^2}{B} = \frac{(2.99792458\times10^8)^2}{1.380668031\times10^{-36}}\,m/s^2$$

$$a = 6.509567532\times10^{52}\,m/s^2$$

Since 186-ether constitutes the fabric of space it is important to realize how speed of light squared c^2 about the ether radius B measures acceleration. This acceleration is constant for any ether sphere rolling in an ether torus.

For example, consider an electron wave. The wavelength is the length of the 186-torus. The electron mass is the ether oscillator rolling in the 186-ether torus.

$$h = m_e \cdot c \cdot \lambda$$
$$h = 9.1093826\times10^{-9}\times2.99792458\times10^8 \times \lambda$$
$$\lambda = 2.426310221\times10^{-12}\,m$$

$$E_\lambda = 1.438756863\times10^{11}J = F\times\lambda$$
$$F = \frac{1.438756863\times10^{11}}{2.426310221\times10^{-12}\,m}\,J$$
$$F = 5.92981413\times10^{22}\,N$$

The acceleration of ether in space is

$$a = \frac{c^2}{B} = \frac{(2.99792458\times10^8)^2}{1.380668031\times10^{-36}}\,m/s^2$$

$$a = 6.509567532\times10^{52}\,m/s^2$$

The acceleration for any oscillator is of the order of 10 to the exponent 52. This is the secret source and reason for mass.

$$F = 5.92981413\times10^{22} = m \cdot a$$

$$m = \frac{F}{a} = \frac{5.92981413\times10^{22}}{6.509567532\times10^{52}}$$

$$m = 9.1093826\times10^{-31}\,kg$$

Here the electron mass is the oscillator, the ether sphere that rolls through the ether torus which is comprised of $2.04099771 \times 10^{21}$ 186-photons.

Force of a 186-photon = Force of an ether electron

$$1.859222909\times10^{-9}\times a = 9.1093826\times10^{-31}\times6.509567532\times10^{52}$$
$$a = 3.189404612\times10^{31}\,m/s^2$$

$$F = m \cdot a$$
$$F = 9.1093826\times10^{-31}\times3.189404612\times10^{31}\,N$$
$$F = 29.053506\,N$$

The meaning of **mass and associated charge** is clearly established. The mass is the ether mass that is measured for an electron oscillator in this case. Charge is 186-photon torus mass. The impact of electron ether mass on associated charge of 186-photon mass is equal and opposite. Charge is conserved for the electron mass and 186-photon mass.

$$E = F \cdot R$$
$$E = 29.053506\times2.817940325\times10^{-15}\,J$$
$$E = 8.187104861\times10^{-14}\,J$$
$$E = m \cdot c^2 = 9.1093826\times10^{-31}\times(2.99792458\times10^8)^2$$
$$E = 8.187104861\times10^{-14}\,J$$

$$\frac{186mass}{Electron,mass} = \frac{1.859222909\times10^{-9}}{9.1093826\times10^{-31}} = 2.040997717\times10^{21}$$

$$\frac{Force,186}{Force,electron} = \frac{5.92981413\times10^{22}}{29.053506} = 2.040997717\times10^{21}$$

$$EtherTorus,mass = 1.859222909\times10^{-9}\times2.040997717\times10^{21}\,kg$$
$$EtherTorus,mass = 3.7946697\times10^{12}\,kg$$

The structure of light and mass develops here. The ether torus of the order of 10 to the power 12 is completely neglected in our everyday experience and measure of mass. This is the entrained ether. The acceleration of this entrained ether mass is $3.189404612\times10^{31}\,m/s^2$.

$$F = 3.7946697\times10^{12}\times3.189404612\times10^{31}$$
$$F = 1.2102737\times10^{44}\,N$$

The force of this entrained ether at a slowed acceleration yields the ether force of space.

$$\frac{Ethermass}{K} = \frac{3.7946697\times10^{12}}{1.346611109\times10^{27}} = 2.81794029\times10^{-15}\,m$$

$$\frac{Electron,mass}{737\,Aitheron,mass} = \frac{9.1093826\times10^{-31}}{7.372496378\times10^{-51}} = 1.235589973\times10^{20}$$

$$E = h \cdot f$$

$$f = \frac{E}{h} = \frac{8.187104861\times10^{-14}}{6.6260693\times10^{-34}} = 1.235589984\times10^{20}\,Hz$$

There is for sure a trade off between frequency and energy in the formation of mass which is basically a reorganization of existing mass within toroidal radial limits.

$$Electricfield, E = \frac{F}{q} = \frac{I}{t}$$

$$E = \frac{29.05350661}{1.60217653\times10^{-19}}\,J$$
$$E = 1.813377369\times10^{20}\,J$$

$eV = E \cdot r$

$eV = 1.813377369 \times 10^{20} \times 2.817940325 \times 10^{-15} eV$

$eV = 511 keV$

This is the experiment figure for an electron mass equivalent in electron volt currency.

$c = \dfrac{r}{t}$

$t = \dfrac{r}{c} = \dfrac{2.817940325 \times 10^{-15}}{2.99792458 \times 10^8} s$

$t = 9.399637148 \times 10^{-24} s$

Here follows proof that current squared is force.

$I = E \cdot t$

$I = 1.813377369 \times 10^{20} \times 9.399637148 \times 10^{-24} A$

$I = 1.704508928 \times 10^{-3} A$

$I^2 = 2.905350686 amp^2$

$\dfrac{I^2}{F} = \dfrac{2.905350686 amp^2}{29.05350686 N} = 10^{-7}$

A factor of 10 to the power 7 appears between current squared as force and the force of the oscillator. The reason for this can be sourced in the length difference of B and B_e.

Ohm's Law Rewritten

$$V = I \times R$$

$$a \times 10^7 = \sqrt{F} \times \dfrac{I}{mass}$$

Acceleration, a as volts equals current, I the root of force, F times resistance, R.
Resistance, R is current, I per photon *mass* about **one 186-seed ether.**

Electric Field, E

The electric field, E is the momentum of one coulomb of ether through a distance measured in terms of its rotation and revolution in the ether torus in one second. In other words, cycles per second, or frequency.

$$E = \dfrac{I}{t} = \dfrac{F}{q}$$

Magnetic Field, B

The magnetic field, B is the momentum of one coulomb of ether acting over an ether radial distance, r.

$$B = \dfrac{I}{r}$$

Pressure of the magnetic field

Radiant pressure has got to do with force acting upon a squared radius as depicted below

$$B^2 = pressure, P = \dfrac{F}{A} = \dfrac{I^2}{r^2}$$

The squared radius is a product of two radii, namely radius within the torus tube and the radius to the center of the torus tube.
This is the reason for the inverse squared relationship in Newton's equation, Coulomb's equation and

intensity of starlight. So we are seeing this phenomenon at atomic and galactic scales.

Curvature of the fabric of Space

At light speed in space devoid of atomic mass units

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

The breakdown of the components of the gravitation constant

$K = \dfrac{m}{r} = \dfrac{\wp}{B} = \dfrac{1.859222909 \times 10^{-9}}{1.380668031 \times 10^{-36}} = 1.346611109 \times 10^{27} kg/m$

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

Birth of Mass

When 186-ether pulsate frequency slows down to velocity v^2 calculated in the equation below, a **photon mass m is born.**
This photon mass is the oscillator that is formed at 300K or 900N force.
The oscillator or temperature photon mass is easily obtained from the Kinetic Gas Equation,

$m \cdot c^2 = 3 \cdot k \cdot T$

$G = \dfrac{1.380668031 \times 10^{-36}}{m} \times 6.68344404 \times 10^{-12}$

Photon mass $m = 1.38258031 \times 10^{-37} kg$

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

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

$\lambda_2 = \dfrac{6.6260693 \times 10^{-34}}{1.38258031 \times 10^{-37} \times 2.99792458 \times 10^8}$

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

Energy of the ether wave E_{λ_2} can be calculated from the force of the ether wave F_{λ_2} and wavelength λ_2

$E_{\lambda_2} = F_{\lambda_2} \cdot \lambda_2$

$E_{\lambda_2} = 900 \times 10^{13} \times 1.59861875 \times 10^{-5}$

$E_{\lambda_2} = 1.438756875 \times 10^{11} J$

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

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

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

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.

Empirical Data Processing – Structure Determination

$$G = \frac{B}{photonmass} \cdot v_{RK} \cdot v_2$$

Input the photon mass born at 300K

$$G = \frac{1.380668031 \times 10^{-36}}{1.38258031 \times 10^{-37}} \times 6.68344404 \times 10^{-12}$$

Factor velocity squared

$$G = \frac{1.380668031 \times 10^{-36}}{1.38258031 \times 10^{-37}} \cdot V_{RK} \cdot V_2$$

$$v_2 = 2.58919687 \times 10^{-16} m/s$$

The Quantum Leap Factor

$$m \cdot c^2 = \wp \cdot v^2$$

$$\frac{m}{\wp} = \frac{V_{RK} \cdot V_2}{V_{RK} \cdot V_{AE}}$$

$$\frac{V_2}{V_{AE}} = \frac{2.58919687 \times 10^{-16}}{3.481818773 \times 10^{12}} = 7.43633439 \times 10^{-29}$$

The inverse of the above ratio is $1.344748566 \times 10^{28}$ and this number represents the 186-photons ⁙ that comprise the ether torus Ꞙ

The mass of the ether torus

$$m = 1.344748566 \times 10^{28} \times \wp$$

$$mass Ꞙ = 2.50018734 \times 10^{19} kg$$

The radius of this ether torus,

$$Radius Ꞙ = \frac{2.50018734 \times 10^{19}}{K} = 1.856651355 \times 10^{-8} m$$

Since the ether torus is a slinky, the coils need to be stretched open into a circle and the radius measured.

The length of the coil is wavelength,

$$\lambda = 2\pi \cdot r \cdot 137.036 m$$

Substitute the value of the ether torus radius,

$$\lambda = 2\pi \times 1.856651355 \times 10^{-8} \times 137.036 m$$

$$\lambda = 1.598618743 \times 10^{-5} m$$

The wavelength may be obtained by another method where the photon mass at 300K is utilized,

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

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

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

You may recall earlier how black body radiation fits in,

$$E_{\lambda_2} = F_{\lambda_2} \cdot \lambda_2$$

$$E_{\lambda_2} = 900 \times 10^{13} \times 1.59861875 \times 10^{-5}$$

$$E_{\lambda_2} = 1.438756875 \times 10^{11} J$$

The oscillator endows motion to one H_2 molecule,

$$2 \times 1.672622216 \times 10^{-27} \times c^2 = R \times 900 \times 10^{13}$$

$$R = 3.340617508 \times 10^{-26} m$$

$$q^2 = \text{mass of photon} \times \text{radius of photon} \times 10^7$$

$$q^2 = \text{mass of photon} \times 3.340617508 \times 10^{-26} \times 10^7$$

$$m = 7.684117164 \times 10^{-20} kg$$

$$E = m \cdot c^2 = 7.684117164 \times 10^{-20} \cdot c^2$$

$$E = 6.906140095 \times 10^{-3} J$$

$$E = 6.906140095 \times 10^{-3} = \wp \cdot v^2$$

$$v = 1927.31 m/s$$

The velocity 1927.31m/s of 186-ether is the velocity of the hydrogen molecule at a temperature of 300K as measured experimentally. Energy of one hydrogen molecule,

$$2 \times 1.672622216 \times 10^{-27} \times 1927.31^2 = 3 \times$$

$$1.380668031 \times 10^{-23} \times 300$$

1 mole of a substance

The importance of the mole concept lies in its ability to relate number of particles with volume and atomic mass units. Listed now are 3 ways to define a mole.

I. The chemical formula represents 1 mole of that substance. The formula mass (expressed in grams) is the mass of 1 mole of that substance. A particle's mass is obtained by dividing atomic mass, Ar or relative molecular mass, Mr by Avogadro's number, L.

II. 1 mole of a substance contains 6.02 E 23 particles (atoms, molecules, ions, electrons, etc.)

Remark: Why is it that the number of particles is constant for varying atomic mass units? The answer lies in the next topic – Oxidation State.

III. 1 mole of any gas at STP (1 atmosphere of pressure and 0 °C) occupies 22.4 liters of volume.

Remark: Why is the volume constant for different species of particles at constant temperature and pressure? The reason lies in the Boltzmann radius, B_e. Furthermore, temperature is force and so the ideal gas equation,

$$P \cdot V = n \cdot k \cdot T \quad \text{is reformulated as}$$
$$P \cdot V = n \cdot B_e \cdot F$$

That is why Avogadro's number of particles occupies a fixed volume at a given temperature which is now revealed to be force.

Oxidation State

Oxidation number is defined as the number of 186-ether seeds associated with a particle.

The Faraday's equation is now shown to give deeper meaning to the word, mass. Mass in our daily experience is the kilogram measure of a cluster of photons. Elementary charge is the mass of 186-ether that corresponds to 1.6 ×10⁻¹⁹C. Charge measured by electricians is 116-ether corresponding to one Coulomb. Ether mass is an electric shock- which is tangible!

Summarized in the table below is the experimentally determined depiction of 186-ether seeds cocooned by millions of photons. Electrolysis of water by 0.068amps current for 18000 seconds yields the data below.

The number of particles, n is constant. What changes is the mass of each particle associated with one 186-photon or elementary charge called Z in Faraday's equation. Oxidation state tells us the mass of a particle associated with one 186-photon.

	PROTON	OXIDE
Mass, M	$1.672622216 \times 10^{-27} kg$	$2.656017781 \times 10^{-26} kg$
186-ether seeds, (Z)	1	2
Photon mass per 186 seed M/Z	$1.672622216 \times 10^{-27} kg$	$1.328008891 \times 10^{-26} kg$
number of particles, n	$7.639607603 \times 10^{21}$	$7.639607603 \times 10^{21}$
Mass in $\dfrac{n \times M}{Z}$ g	$1.27781774 \times 10^{-5} kg$	$1.01454668 \times 10^{-4} kg$

It is very significant that the number of particles, n is constant. It is the density that changes. The volume is constant. And so the mass changes. The mass change is a frequency change. The frequency for H is different from O. The frequency of the oscillator imparts texture to the skin of the torus as impact force. One force is due to pulsation as described under quantum gravity.

QUANTUM GRAVITY

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. Quantum gravity theory holds in the ether domain.

ETHER IN DYNAMIC PULSATE MOTION

Planck Ether Mass   186 ETHER MASS
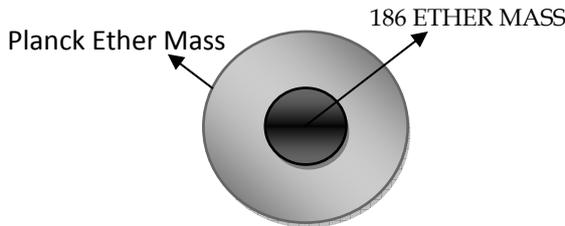
$$m_{Pl} \equiv \sqrt{\frac{\hbar c}{G}} = \text{Planck Mass} = 2.176450474 \times 10^{-8} \text{ kg}$$

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

$B = 1.380668031 \times 10^{-36}$

The Boltzmann radius, B and the Planck length are fundamental length limits of an ether particle.
186-ether is the lower length limit in the universe as measured by the kinetic theory of gases. However, the aitheron radius is the smallest length in the Universe.

I thus reached the lower length limit B of 186-ether the upper limit being that of the Planck mass predicted by quantum gravity. Quantum gravity holds.

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

Planck ether, the upper length limit of 186-ether in dynamic pulsate motion.

$$K = \frac{m}{r} = \frac{planckmass}{plancklength} = 1.346611109 \times 10^{27} kg / m$$

The Planck length times the ether constant ratio K yields the Planck mass. The Planck mass obeys the ether constant ratio K and is ether mass. Quantum gravity is an ether theory.

The solution to the Hand of God number, alpha is imaged as a pulsation of 186-ether by a factor of 137.036 to the radial Planck length of quantum gravity.

It must be noted that the 186-ether radius B is the smallest length measurable by the Kinetic Theory. However, the aitheron length is the smallest length in the Universe.

Significance and role of 186-ether

As a light wave source and transmitter
The lower limit of the Planck mass of quantum gravity
Source and transmission of heat
A measure of electric charge
The reason for unification of light and gravity
The deconstruction of Ohm's law
Reinterprets the Von Klitzing factor
Defines the speed of light, c
Defines the gravitation constant, G
Validates Magnetic Flux Quantum, Φ_0
Give rise to the massive Ether Force
Differentiates radiation from convection
Redefines the electric and magnetic field
Unites gravity with electromagnetism
Proves that 186-current is the source of electromagnetism
Resolves wave-particle duality
Formulae clearly define a wave, a particle and a field.
The source of the Boltzmann constant gives new life to thermodynamics
Temperature redefined as force of the oscillator
Gravity is synonymous with voltage and acceleration of ether
Current is the momentum of 116-ether
Resistance is current per 186-ether mass
Voltage is acceleration of 186-ether
Gravity is acceleration of 186-ether
A two mass body – 186 squared – is the step towards emanation of matter as atomic mass units
186-ether seeds represent oxidation state of an atom
Matter is defined as photon clusters about 186-ether seeds
Mass is derived from the frequency of the oscillator
Reason for Brownian motion
186-ether is the black body radiator
The ether field obeys the ether constant ratio, K
Defines E=mc² which is an ether equation

There is so much of solid evidence presented here [from existing experimental data] in the table below, that one can hardly ignore the existence of ether.

Listed below are empirical formulas that describe various attributes of 186-ether. The equations elucidate atomic structure and light.

|	
186-ether mass, m and radius, r	$h = m \times Rk \times r$ Associated with the Von Klitzing constant, Rk
Charge squared of a photon particle, q^2	$q^2 = m \times r \times 10^7$ C² Photon mass pulsates thru radius, r
The ether wave	$\lambda = 2\pi \times r \times 137.036$ m Created by a photon of radius, r
Cross section area, A of a photon	$A = \pi \times (r)^2 \times 137.036$ m^2 The photon radial extension of 137.036 is involved
Current, I	$\dfrac{1.16 \times 10^{10} \times v}{1C}$ A The momentum of 116-ether
Ether force as current squared, I^2	$I^2 = F, force$ N Unity of electric current and the force of gravity
Magnetic field, B	$B = \dfrac{I}{r}$ A/m Current per photon radius
Electric field, E	$E = \dfrac{F}{q} = \dfrac{I}{t}$ A/s Momentum of 186-ether per unit time
Resistance, R	$R = \dfrac{I}{186} = \dfrac{v}{q}$ A/kg Current associated with one 186-ether mass
Magnetic flux, Φ_B The angular momentum of 116-ether	$\Phi_B = \dfrac{I}{r} \times A$ or $\Phi_B = I \times \pi \times r \times 137.036$ Wb
Electric flux, Φ_E	$\Phi_E = \dfrac{I}{t} \times A$ or $\Phi_E = eV \times R;$ $R = \pi \times r \times 137.036$ A.m²/sCurrent thru a cross section area of a photon in time
Electron volts, eV	$eV = r \times E = r \times \dfrac{F}{q}$ $N.m/C$ Electric field acting thru a distance, r
Heat, H	$H = \dfrac{1.16 \times 10^{10} \times v^2}{1C}$ J Energy associated with 1 coulomb of ether
Voltage, V	The gravitational acceleration of a photon body
Source of light speed, c	$c = \dfrac{r}{t} = \dfrac{1.380668031 \times 10^{-29}}{4.605412826 \times 10^{-38}}$ m/s The pulsate velocity of 186-ether
Photon force, F	$F = 29.05350661\,N$ The force of a photon at pulsate speed, c
Ether contained within photon radius, r	$r \times 1.346611109 \times 10^{27}\,kg\,/\,m$ The ether mass consists of myriads of 186-ether

Energy of two 186:186 interacting ether waves A depiction of black body radiation	$$\frac{E_{\lambda_2}}{E_{\lambda 1}} = \frac{2\pi \cdot \wp \cdot c^2 \cdot 137.036}{3 \cdot T \cdot 10^{13} \cdot \lambda_{emit}} = 4.965051098$$
B is the lowest limit of length in the universe for atomic mass. Quantum gravity holds.	$$\pi B^2 \cdot 137.036 = \pi \cdot \left(Plancklength\right)^2$$
Radiant Pressure	$$B^2 = pressure, P = \frac{F}{A} = \frac{I^2}{r^2}$$
Measure of mass is the frequency of an oscillator	$$mass \times timeperiod \times 137.036$$ $$= 0.7372496364 \times 10^{-50} kg.s$$
Light speed squared c² E=mc²	$$c^2 = V_{RK} \times V_{B_e} \quad \text{and m is ether mass}$$ $$c^2 = 3.481818773 \times 10^{12} \times 25812.80754$$
Coulombs constant, k	$$c^2 \times 10^{-7} = 3.481818773 \times 10^5 \times 25812.80754$$
737 Aitheron ǽ	$$7.372496378 \times 10^{-51} kg$$ A mean volumetric radius, R_{737} of $5.474851892 \times 10^{-78} m$
Coulomb's constant, k	$$k_e = V_{RK} \times V_B$$
Ether torus [Ђ]	$$186 PHOTONS \times 2.521836313 \times 10^{41}$$
Gravitation G and EM	$$G = \frac{B}{\wp} \cdot v_{RK} \cdot v_{AE}$$
Ohm's Law $V = I \times R$	$$a \times 10^7 = \overline{)F} \times \frac{I}{mass}$$

STRUCTURE OF LIGHT

This precession of the spinning ether torus oscillates the rolling ether sphere

$$h = 186 \cdot V_{RK} \cdot V_{B_e} \qquad V_{RK} = 25812.80754 m/s \qquad 186\, frequency, f = 2.521836313 \times 10^{41} s^{-1}$$

$$B_e = 1.380668031 \times 10^{-29} m \qquad \wp = 1.859222909 \times 10^{-9} kg$$

Planck Ether Mass

186-ETHER [Ɛ]

$$737\, aitheron = 7.37249638 \times 10^{-51} kg[œ]$$

$$ETHER\ TORUS[Ђ] = 186 PHOTONS \times 2.521836313 \times 10^{41}$$
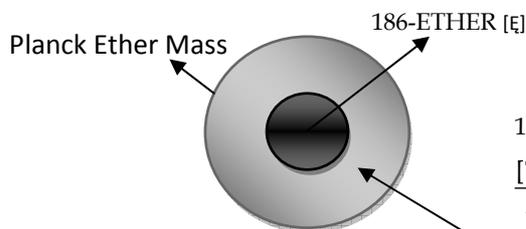
$$1.859222909 \times 10^{-9} \times 2.521836313 \times 10^{41} = 4.488655846 \times 10^{32} kg$$

$$\frac{[Ђ]}{K} = \frac{4.488655846 \times 10^{32}}{1.34661109 \times 10^{27}} = 3.481818773 \times 10^5 m$$

ETHER TORUS[Ђ]

737 Aitheron X $2.521836313 \times 10^{41}$ = 186-ETHER [Ɛ]

ONE 186-PHOTON TORUS ⸪

B

SOLID ANGLE=$4\pi \times 10^{-7}$
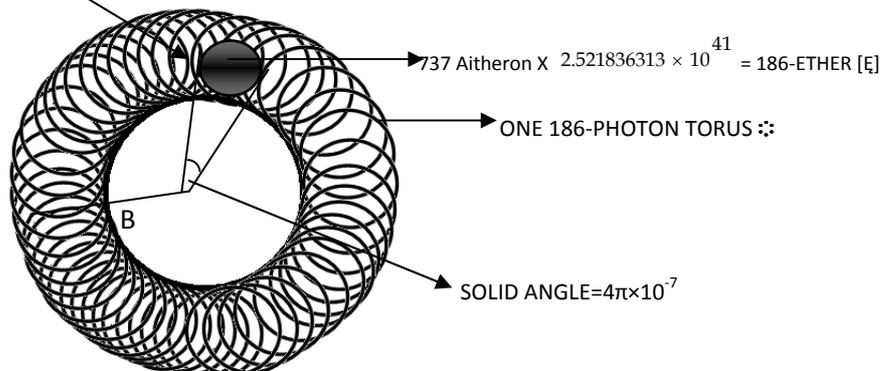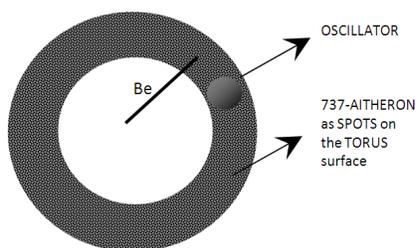
186-Photon Torus

The 186-photon torus ⁖ is comprised of Photons ❶. A photon is comprised of aitherons [œ] . The frequency of a photon equals the number of aitheron particles that constitute its toroidal surface. The oscillator endows mass by way of its impact force on the torus skin. The frequency is the measure of mass. This way of looking at mass is a complete new paradigm.

Solid Angle

The oscillator subtends a solid angle $4\pi \times 10^{-7}$ at the center of the torus. This very tiny angle is not to scale in the image diagrammed above.
Since voltage is acceleration, magnetic permeability is fictitious. Electrical permittivity is velocity squared.

Conclusion

This research portrays the toroidal nature of light. One Slinky is a depiction of the ether torus, Ꞛ. This ether torus is comprised of 186-ether photons, ⁖ . Each 186-ether photon is formed out of millions of photons, ❶ which are measured in electron volts, *eVe*. Aitherons are ether particles comprising the photon surface. The aitheron, ǽ energy equals Planck's constant in magnitude. Tubular chains of photons coil to form an element. Helices of the same element measured as atomic mass form the 186-photon ⁖ - the associated elementary charge *e*. A chain of 186-photons in the form of a slinky comprise an ether torus Ꞛ. The frequency of an element tells us the number of aitheron particles that constitute its tubular surface. Electromagnetism is created by an ether sphere, ✳ rolling and pulsating inside the spinning tubular ether torus. The ether sphere charts a trajectory which is a result of its own velocity and the rotary velocity of the precessing ether torus. This trajectory produces the orbitals wherein the position and momentum of the ether sphere is precisely known. The pulsating ether sphere, ✳ is the oscillator. Significantly, the node depiction in orbital shapes becomes real because the oscillator does not travel through a center of the dumbbell but rather gyrating about a solid angle of 4π×10-7. The force of the ether sphere measures Kelvin temperature. The impact force of the ether sphere on the element component of the spinning ether torus is a measure of atomic mass.

The impact force causes precession of the ether torus which is on account of two motions namely the rolling ether sphere and its pulsations.

The pulsation of 186-ether, Ꞓ in particular yields the Planck length $1.616242809 \times 10^{-35}\,m$ of quantum gravity. Thus the radius, **B** of 186-ether is $1.380668031 \times 10^{-36}\,m$ the smallest length measurable in the universe by way of the kinetic theory does not allow for absolute zero. However, frequency measures the smallest length $5.474851892 \times 10^{-78}\,m$ in the universe that of an aitheron. The number of aitheron particles constituting a photon or 186-ether or a 186-photon or an element is a measure of frequency. So, the structure of matter is portrayed in terms of mass, radial length and frequency or time period.

Earth Gravity

The entrained ether of earth is responsible for acceleration due to gravity of 9.8 m/s2. I have shown that the mass of earth is the impact force of ether oscillators on the entrained ether.

There are 3.21264×10^{33} 186-ether oscillators that endow mass to earth.
There are 1436334158 186-ether particles in a single torus.

$$\wp \times 3.21264 \times 10^{33} \times 1436334158 = \text{Ether Torus mass}$$

The inverse of 1436334158 is 6.962168×10^{-10} and a result of "**The Quantum Leap Factor**"

$$m \cdot c^2 = \wp \cdot v^2$$

$$\frac{m}{\wp} = \frac{V_{RK} \cdot V_2}{V_{RK} \cdot V_{AE}}$$

$$\frac{V_2}{V_{AE}} = \frac{2424.1}{3.481818773 \times 10^{12}} = 6.962168 \times 10^{-10}$$

Toroidal Tubulation – Tunneling in Biology
In Biology, we encounter a continuous membrane system. This membrane system could be thought of as tori domains that vibrate at particular frequencies. A structurally defined domain is a photon torus. Many identical photon tori form a distinct domain called an element. An element with associated charge is defined by mass and its oxidation state as determined by Faraday's equation. And 186-photons link to form the ether torus. The skin of the tori is the texture of matter we experience by touch and other senses. However, it is the impact of the ether oscillator in the tube of the torus that yields the measure of mass.

The ether oscillator is the source of temperature measured as impact force on the torus it rolls in. This

impact force on the mass of the ether torus is responsible for acceleration due to gravity. The mass of the ether oscillator is the mass we think of as atomic mass units and measured as electron volts. The skin of the tori gives us a feel of mass of the ether oscillator due to its impact force on the tori.

As a Biochemist I come across many tubular structures. Some important structures are tubular proteins, microfilaments, blood vessels, the alimentary canal, the filamentous extracellular matrix, nucleic acids and so on. The obvious question: What is the basis for tubulation in life? The answer may be as simple as this. The fractal ether torus is the building block of all material objects. The torus imparts the tubular shapes and structures and general organization of higher forms of material objects molded from within by an ether oscillator. The texture of material is changing according to the frequency of the oscillator which is, a measure of mass: $E = hf = mc^2$ where m is ether mass of the oscillator and f represents its frequency.

Furthermore, one can conceive membrane dynamics where toroidal fusion in the millions leads to reproduction. Frequency of the oscillator is the reason and the means of recognition in bonding. This bonding leads to higher domains of evolution with cell formation out of macromolecules and polymers. Cells know where they are and cells talk to each other via frequency. The helical nucleic acids and proteins command pattern formation in development of life from embryo till death. The expression of homeotic genes that dictate the position of organs is via signaling of morphogen proteins. The signal cascades are all electromagnetic in nature. Temperature and polarity are two variables involved in all forms of cell division and reproduction. The source of temperature and polarity is the ether oscillator. Increase in mass is due to increase in the oscillator's frequency.

There are a few important examples of tunneling in Biology. Electromagneticporation occurs in nature in transport across cell walls and membranes. In cloning technology the fusogen is an electromagnetic field. A classic example of tubulation is Fuch's bridge. If a high voltage is applied between water in two beakers, a floating dense water Fuch's bridge forms between the two beakers. It is now conceivable that worm holes exist across the vastness of space. These are examples of toroidal tubulation generated by electromagnetism in the living Universe.

I have thus traced back the genesis of life by retro-synthesis - of life forms and events that preceded the elements that form an embryo; Events of membrane dynamics of millions of tori; Dynamics that fashion mass as changed texture, orchestrated by ether oscillators. At the heart of the Universe is a living pulsating fractal ether toroid which is alive.

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NOTES

1. I have unified quantum gravity with the Ether Model. 186-ether pulsates to the Planck mass radial limit.

2. I have unified gravity and electromagnetism by a proof based on experiment that voltage is acceleration with an electron test particle.

3. I have demonstrated the source of mass as an oscillator impact on a torus tube.

4. Earth's gravity of $9.8 m/s^2$ is the acceleration of entrained ether.

5. Membrane dynamics of tori are at the heart of every activity in the Universe.