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Unification of Gravity with Electro-Magnetic Phenomena: GEM

Gravity, g, is Voltage, V

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Acceleration due to gravity is voltage. Gravity is acceleration. Voltage is acceleration. Gravity and voltage are synonymous terms. The $1.859222909 \times 10^{-9}$ kg mass herein referred to as 186 represents intrinsic charge, *e*. The 186 ether mass is the source of gravity or voltage and electromagnetism.

PARADIGM SHIFT - A black triangle▲ means that the current understanding is flawed.

Term	Current understanding	Refurbished Paradigm
Voltage, V	Potential difference▲	Acceleration
Resistance, R	Opposes current flow▲	Velocity per charge or current per unit 186 ether mass
Current, I	Electron flow▲	Momentum per coulomb of 1.16×10^{10} kg ether
Charge, q	$1.60217653 \times 10^{-19}$ C 1.0 C	1.86×10^{-9} kg ether 1.16×10^{10} kg ether
Acceleration due to gravity, g	Force per unit mass	Voltage
Cross sectional area, A	Cross section of a conductor	Pi times radius squared times 137
Field	Comes into being when mass or charge is introduced▲	Ether is the fabric – 186s
Electric field, E	Force per unit charge	Current per unit time
Electric flux, Φ_E	Field, E passing thru area, A	Acceleration of 1.16×10^{10}kg/C ether thru area, A
Magnetic field, B	A measure of magnetic force per unit charge moving at velocity, v	Current per unit length
Magnetic flux, Φ_B	Field, B passing thru an area, A	Angular momentum of 186
Atomic mass units, AMU	Inverse of Avogadro number of particles	Mass of a photon cluster
Speed of Light, c	Locomotion of photons▲	Speed of an etheric wave front
Von Klitzing constant	Resistance measured for super-conductors▲	Velocity of 186 mass for super-conductors
Pressure, P	Force upon area	Magnetic field, B squared
Heat, H	Total KE of a system	Energy of 186
Time, t=q/I	Charge per unit current	Time for current to pass thru a radial distance of the 186 ether
Ether force constant	Not defined	Force of 186 ether 1.21×10^{44} N

Part 1: Electromagnetism

Defining Field & Flux

The Field

The fabric of ether, comprised of myriads of 1.859222909×10^{-9} kg masses, is the field. The radius of each "186-ether mass" is the Boltzmann constant, $k = r\times10^{7}$ m.

The etheric field is a constant ratio, {ref. 1}

$$\frac{1.859222909\times10^{-9}}{1.380668031\times10^{-36}} = 1.346611109\times10^{27}\,kg/m$$

And the same ether represents charge,

$$\left(1.602176537\times10^{-19}\right)^2 = 1.85922209\times10^{-9}\times1.380668031\times10^{-36}\times10^{7}$$

Electric Field, *E*

The electric field, *E*, is a property of the ether in which any particle or mass is embedded.

At any given point where the particle or object is located, the strength of the field is defined as the force exerted by 186-ether mass measured as elementary 1.60217653×10^{-19} coulombs charge placed at that point.

In other words, the electric field, *E*, is actually caused by the pulsating 1.859222909×10^{-9} kg ether mass exerting a force on the particle embedded in it.

An electric field, *E*, is change in current, *I*, within changing time, *t*. The direction of the field is given by the direction of that force.

Electric fields contain electrical energy per 1.859222909×10^{-9} kg mass and this is heat, *H*.

The electric field, *E*, is a measure of a single 1.859222909×10^{-9} kg mass amidst myriads of 1.859222909×10^{-9} kg masses contained within the object or particle.

The elementary charge, *q or e* is intrinsic to the 1.859222909×10^{-9} kg ether mass {ref. 1}.

Mathematically, the electric field, $E = \frac{F}{q}$ is the electric force, *F*, experienced by the particle and is equal and opposite to the force of 1.859222909×10^{-9} kg ether mass.

E is a property of the electric field wherein the particle is embedded and mathematically measured as, $E = \frac{I}{t} = \frac{F}{q}$, where current, *I*, is the momentum of 1.160435741×10^{10} kg etheric mass per one coulomb charge in time, *t*.

Electric Flux, Φ_E

Here, phi is a measure of the electric field, *E*, passing through a cross sectional area, *A*. If we define area as a vector, with its direction perpendicular to the surface, the electric flux is given by: $\Phi_E = E\ A\ Cos\ \theta$ where theta, θ, is the angle between the electric field and the area vector, in this case 90 degrees for convenience in solving problems that follow. The conventional formula for electric flux remains.

Magnetic Field, *B*

A common interpretation is that a magnet produces a vector field, the magnetic field, at all points in the space around it. The magnetic field can be defined by measuring the force the field exerts on a moving charged particle, such as an electron. The force, *F*, is equal to the charge, *q*, times the speed of the particle times the magnitude of the field, *B*, or $F = B\times q\times v$, where the direction of *F* is at right angles to both *v* and *B* as a result of the cross product. This defines the magnetic field's strength and direction at any point, as per the common interpretation.

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, $B = \frac{I}{r}$.

Magnetic Flux, Φ_B

Here, phi is a measure of a physical quantity called magnetism.

Quantitatively, the magnetic flux, Φ_B through a surface of area *A*, is defined as a measure of the magnetic field, *B*, passing through an area, *A*. If we define area as a vector, with its direction perpendicular to the surface, then the magnetic flux is $\Phi_B = B\ A\ Cos\ \theta$, where theta is the angle

between the magnetic field and the area vector, in this case 90 degrees for convenience. The conventional formula for magnetic flux remains.

Magnetic Flux Quantum, Φ_0

Here, phi is a property of a super current where the magnetic flux passing through any area bounded by such a current is quantized. The quantum of magnetic flux is a physical CODATA constant, Φ_0, and is independent of the underlying material of the current-carrying conductor, as long as it is a superconductor.

$$\Phi_0 = \frac{h}{2e} = 2.067833636\times10^{-15} \text{ Wb}$$

This experimentally determined constant helped me define *cross sectional area, A,* through which flux is measured as $A = \pi \times R^2 \times 137.036$.

The 186-ether Mass

The mass of $1.859222909\times10^{-9}\,kg$ ether contained within a radius of $1.380668031\times10^{-31}\,m$ that corresponds to the Boltzmann constant is a measure of charge, *Q*. Here the Boltzmann constant is $k = r\times10^7$ m.

Assumption

If we assume the electrical force due to charge and centripetal force to be equal, then for force, *F*,

$$F = \frac{k\times q\times q}{r^2} = \frac{m\times c^2}{r}$$

Canceling and rearranging terms yields,

$$q^2 = m\times r\times10^7$$

As calculated below, the charge squared formula holds true for photons and electrons alike.

Example 1: Squared charge of the rest mass of an electron.

$$\left(1.602176537\times10^{-19}\right)^2 = 9.1093826\times10^{-31}\times2.817940325\times10^{-15}\times10^7$$

Example 2: Squared charge of the rest mass of 186.

$$\left(1.602176537\times10^{-19}\right)^2 = 1.85922209\times10^{-9}\times1.380668031\times10^{-36}\times10^7$$

Here the Boltzmann radius is $k = r\times10^7$ m where, $r = 1.380668031\times10^{-36}$ m

Example 3: Squared charge of the rest mass of a proton.

$$m = \frac{q^2}{R\times10^7} = \frac{\left(1.60217653\times10^{-19}\right)^2}{1.534697799\times10^{-18}\times10^7}\,kg$$

$$m = 1.672622216\times10^{-27}\,kg$$

A reminder: a proton or H-atom is a cluster of 69 million Rydberg photons {Ref. 1}.

Defining *V, I,* and *R*

The three fundamental descriptors of electricity are voltage, V, current, I, and resistance, R. Furthermore, Ohm's law describes the relationship between voltage, V, current, I, and resistance, R, as V = I × R. This relationship holds true for Ohmic conductors. The units of voltage are volts, those of current, amperes, and those of resistance, ohms.

Conventionally defined, voltage, *V*, is said to be the potential difference arising out of a surplus and/or deficiency of electrons between two points; and so, this traditional viewpoint is presented as energy per unit charge.

Voltage will now be redefined as acceleration, ampere squared will be redefined as force, and resistance as velocity of a photon body per unit charge, *q*, or, *e*.

In the formula, $q = I\times t$, *q* is elementary charge, *I* is current and *t*, the time taken for a coulomb of charge equivalent to 1.160435741×10^{10} kg ether mass to travel a distance equal to the mean volumetric radius of, for example, a photon, electron, or proton.

An electromagnetic field is due to 1.859222909×10^{-9} kg masses of ether. Here the Boltzmann radius is $k = r\times10^7$ m where $r = 1.380668031\times10^{-36}$ m.

Ether is comprised of infinite 186 masses.

What scientists and electricians measure as electric charge is actually the ether contained within a photon body. Resistance, R, measured in Ohms is velocity per elementary charge or current, I, per ether mass of 1.859222909×10^{-9} kg. The acceleration, a, or voltage, V, of the field 1.859222909×10^{-9} kg mass of ether is exactly the same as the source photon contained ether that causes etheric waves. Frequency remains unchanged. One coulomb charge is equivalent to 1.160435741×10^{10} kg mass of ether. The acceleration, a, of photon mass is measured as volts, V, present in the expression eV, electron volts.

Unity of Voltage, *V*, and Gravity, *g*

***Problem*: Electrolysis of Water**

Experimental data will now be employed to prove that voltage is gravity is acceleration.

The same data were utilized in depicting charge as etheric mass in {ref. 1}.

Consider the data collected from electrolysis of water.

Current I = 0.068 amps

Time t = 18,000 s

Equation: $2H_2O \rightarrow O_2 + 4H^+ + 4e^-$

Charge, Q, current, I, and time, t, are equated as,

$$Q = I \times t \tag{1}$$

$$Q = 0.068\times18000 \text{ Coulombs}$$

$$Q = 1224 \text{ C} \tag{2}$$

The charge Q, is the total number, n of charges, e,

$$Q = ne \tag{3}$$

Rearranging terms,

$$n = \frac{Q}{e} = \frac{1224}{1.60217653\times10^{-19}}$$

$$n = 7.639607603\times10^{21} \tag{4}$$

The number, n represents the number of protons that are accumulated at the cathode. *The number, n also represents the number of seed 186-ether masses (intrinsic charge) associated with the protons.*

Utilizing the above data, the relationship between matter and charge, voltage and acceleration due to gravity will be elucidated.

Method 1

Electric field,

$$E = \frac{I}{t} = \frac{0.068}{18000} = 3.777777778\times10^{-6}\, A/s \tag{5}$$

Electric field, $E = \dfrac{F}{q}$ (6)

$$F = E\times q \tag{7}$$

$$F = 3.777777778\times10^{-6}\times1.60217653\times10^{-19} \tag{8}$$

$$F = 6.052666891\times10^{-25}\, N \tag{9}$$

$$a = \frac{F}{m} = \frac{6.052666891\times10^{-25}}{1.672622228\times10^{-27}}\, kg \tag{10}$$

$$a = 361.866941\, m/s^2 \tag{11}$$

As calculations proceed, you will notice that the force experienced here by the H-atom is equal to that of the 186-ether, exerting force, as in Eq. (24), Eq. (27), and Eq. (37).

The Radius of a Hydrogen Atom

$$r = \frac{q^2}{m\times10^7} \tag{12}$$

$$r = \frac{(1.60217653\times10^{-19})^2}{1.672622228\times10^{-27}\times10^7}\, m$$

$$r = 1.534697788\times10^{-18}\, m \tag{13}$$

The radius of a H-atom is thus calculated.

Substituting the value for, $r\times10^7\, m$ from Eq. (13) and acceleration, a from Eq. (11) into $a = \dfrac{r\times10^7}{t^2}$ yields,

$$t^2 = \frac{r\times10^7}{a} = \frac{1.534697788\times10^{-11}}{361.866941}\, s^2 \tag{14}$$

$$t^2 = 4.241055521\times10^{-14}\, s^2 \tag{15}$$

$$t = 2.059382315\times10^{-7}\,s \qquad (16)$$

Frequency, *f*, is the inverse of time period:

$$f = \frac{1}{t} = \frac{1}{2.059382315\times10^{-7}}\,s^{-1} \qquad (17)$$

$$f = 4.855824936\times10^{6}\ s^{-1} \qquad (18)$$

Frequency is the signature for action via field ether at a distance.

The Velocity, v, of a Hydrogen Atom

$$v = \frac{r}{t} = \frac{1.534697788\times10^{-11}}{2.059382315\times10^{-7}} \qquad (19)$$

$$v = 7.452222254\times10^{-5}\,m/s \qquad (20)$$

$$\text{Velocity, } v = \frac{r}{t} = \frac{1.380668031\times10^{-29}}{2.059382315\times10^{-7}}\ \text{m/s} \qquad (21)$$

$$v = 6.70428225\times10^{-23}\,m/s \qquad (22)$$

$$m\times v^2 = k\times T \text{ or force, } T = \frac{mv^2}{k} \qquad (23)$$

$$T = \frac{1.859222909\times10^{-9}\times(6.70428225\times10^{-23})^2}{1.380668031\times10^{-29}} \qquad (24)$$

Here the Boltzmann radius is $k = r\times10^{7}$ m,

$T = 6.052666891\times10^{-25}$ N [see Eq. (9)]

Absolute temperature, *T*, is force.

The force of one hydrogen atom of, $F = 6.052666891\times10^{-25}$ N equals that of 186-etheric mass.

For 186

Squared charge of the rest mass of 186,

$$\left(1.602176537\times10^{-19}\right)^2 = 1.85922209\times10^{-9}\times1.380668031\times10^{-36}\times10^{7} \qquad (25)$$

Substituting the value of the Boltzmann radius, $r\times10^{7}$ from Eq. (25) and the value of time squared, t^2 from Eq. (15), yields,

$$a = \frac{r}{t^2} = \frac{1.380668031\times10^{-29}}{4.241055521\times10^{-14}}$$

$$a = 3.25548209\times10^{-16}\,m/s^2 \qquad (26)$$

$$F = m\times a = 1.859222909\times10^{-9}\times3.25548209\times10^{-16}$$
$$F = 6.052666891\times10^{-25}\,N \qquad (27)$$

Notice that the *frequency* is the same and constant for the force of 186 in Eq. (27) and the force of the proton in Eq. (9) to be equal.

Method 2

Energy in terms of *eVe* and mv^2 is calculated as,

$$eVe = mv^2 \text{ or } e^2 = \frac{mv^2}{V} \qquad (28)$$

For 186

$$e^2 = \frac{1.859222909\times10^{-9}\times(6.70428225\times10^{-23})^2}{3.25548209\times10^{-16}} \qquad (29)$$

For a Hydrogen Atom

$$e^2 = \frac{1.672622228\times10^{-27}\times(7.452222254\times10^{-5})^2}{361.866941} \qquad (30)$$

Note that voltage, V, is acceleration, a.

There is No Locomotion of 186

The quantum fluctuation can be expressed simply as the 186-field particles of ambient ether vibrating at the same frequency as the source photon.

This is *radiation* where 186-field particles pulsate about a mean position, that is, they undergo radial contraction and expansion realized as a wave front of the etheric sea. This must be visualized in stark contrast to the phenomenon of particles in locomotion, or *convection.*

Proof

$v = 6.70428225\times10^{-23}$ m/s for the 186-ether

$v = 7.452222254\times10^{-5}$ m/s for the H-atom

The ratio of the above two velocities [see Eq. (20) and Eq.(22)] is,

$$\frac{7.452222254\times10^{-5}}{6.70428225\times10^{-23}} = 1.111561533\times10^{18} \qquad (31)$$

The ratio of the masses of ether contained within a H-atom *to* 186 is the same value as in Eq. (31),

$$\frac{2.066640667\times10^{9}}{1.859222909\times10^{-9}} = 1.111561533\times10^{18} \qquad (32)$$

Thus, increase in velocity is not due to velocity increase of 186 but due to mass of contained ether. *Frequency is constant*.

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 $c = \frac{\lambda}{t}$.

The particle wave-maker photon which ripples ether is defined as,

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

The ether wave length is defined as,

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

The etheric field is a constant ratio,

$$\frac{M}{R} = 1.346611109\times10^{27}\, kg/m \text{ \{Ref. 1\}}$$

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 $\lambda = 2\pi\times r\times137.036$ where *r* is the radius of the photon body that experiences the 186 force due to pulsate velocity, *v*.

Proof: Resistance, $R = \frac{I}{186}$

Let us calculate for resistance,

$$R = \frac{v}{q} = \frac{I}{1.859222909\times10^{-9}}\ A/kg \qquad (33)$$

Substituting for velocity, *v*, from Eq. (22),

$$R = \frac{v}{q} = \frac{6.70428225\times10^{-23}}{1.60217653\times10^{-19}}\ A/kg \qquad (34)$$

$$R = 4.184484125\times10^{-4}\ A/kg \qquad (35)$$

$$R = \frac{I}{1.859222909\times10^{-9}}\ A/kg$$

$$R = 4.184484125\times10^{-4}\ A/kg$$

The resistance, *R*, is the same as in Eq.(35).

$$I^2 = (7.779888747\times10^{-13})^2 \qquad (36)$$

$$I^2 = 6.052666891\times10^{-25}\ N \qquad (37)$$

Force is ampere squared.

Calculating the Electric Field, $E = \frac{F}{q} = \frac{I}{t}$

$E = F/q$

Substituting for force manifested as current squared, F from Eq. (9), Eq. (24), Eq. (27), and Eq.(37),

$$E = \frac{F}{q} = \frac{6.052666891\times10^{-25}}{1.60217653\times10^{-19}} N/C \quad (38)$$

$$E = 3.77777778\times10^{-6} N/C \quad (39)$$

Substituting for current, I, from Eq. (36) and time, t, from Eq. (16),

$$E = \frac{I}{t} = \frac{7.779888747\times10^{-13}}{2.059382315\times10^{-7}} A/s$$

$$E = 3.77777778\times10^{-6} A/s \quad (40)$$

Thus, $E = \frac{F}{q} = \frac{I}{t}$ is seen in calculations leading to Eq. (39) and Eq. (40).

Current, I, Redefined

Current is now defined as the momentum of one coulomb charge or $R = \frac{I}{186}$. One coulomb charge is equivalent to 1.160435741×10^{10} kg mass of ether.

Substituting for velocity, v from Eq. (22),

$$I = 1.160435741\times10^{10}\times6.70428225\times10^{-23} A$$

$$I = 7.779888747\times10^{-13}\ A \quad (41)$$

The current, I, matching with the value in Eq. (36) is evidence of 1.160435741×10^{10} kg/C ether at velocity, v, being tangible current.

In other words, the concept of current as moving electrons is incorrect.

Evidence of Ether

$$E = F\times R$$

Input the value for the radius of a hydrogen atom with radius, $r\times10^{7}$ Eq. (13),

$$E = 6.052666891\times10^{-25}\times1.534697788\times10^{-11} \quad (42)$$

$$E = 9.289014489\times10^{-36} J \quad (43)$$

$$E = m\times v^2 = 9.289014489\times10^{-36} J \quad (44)$$

Substitute the velocity, v, from Eq. (22),

$$m = \frac{E}{v^2} = \frac{9.289014489\times10^{-36}}{(6.70428225\times10^{-23})^2} kg \quad (45)$$

$$m = 2.066641105\times10^{9} kg \quad \text{[the } \textbf{ether} \text{ mass]} \quad (46)$$

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

$$\frac{\mathrm{m}}{\mathrm{r}} = 1.3406611109\times10^{27} kg/m$$

$$\frac{2.066641105\times10^{9}}{1.534697788\times10^{-18}} = 1.346611109\times10^{27} kg/m$$

Thus, the existence of ether is proven.

Magnetic field, B, within a Hydrogen Atom

The ratio of current, I, to the radius, r, is proven to be the magnetic field, B.

Substituting for current, I from Eq. (36) and radius, r, from Eq. (13),

$$B = \frac{I}{r} = \frac{7.779888747\times10^{-13}}{1.534697788\times10^{-11}} A/m \quad (47)$$

$$B = 5.069329485\times10^{-2} A/m \quad (48)$$

Substituting for the field, E, from Eq. (40) and field, B, from Eq. (48),

$$v = \frac{E}{B} = \frac{3.777777\times10^{-6}}{5.069329485\times10^{-2}} m/s \quad (49)$$

$$v = 7.452222254\times10^{-5} m/s \quad (50)$$

This is the velocity, v, of a hydrogen atom in Eq. (20) shown as follows,

$$v = \frac{r}{t} = \frac{1.534697788\times10^{-11}}{2.059382315\times10^{-7}} m/s \quad (51)$$

$$v = 7.452222254\times10^{-5} m/s \quad (52)$$

Notice that the ratio of the total time squared for electrolysis and time squared for one proton equals the number of protons discharged at the cathode, in Eq. (4).

$$\frac{18000^2}{(2.059382315\times10^{-7})^2} = 7.639607605\times10^{21} \text{ protons}$$

Similarly, the ratio of total current squared passed during electrolysis to the current squared passed thru one proton equals the number of protons discharged at the cathode.

$$\frac{0.068^2}{(7.779888747\times10^{-13})^2} = 7.639607605\times10^{21} \text{ protons}$$

Electric, E,* and *Magnetic Field, B, for 186

Substituting for current, *I,* from Eq. (36) and radius, *r,* from Eq. (25),

$$B = \frac{I}{r} = \frac{7.779888747\times10^{-13}}{1.380668031\times10^{-29}} A/m \quad (53)$$

$$B = 5.63487281\times10^{16} A/m \quad (54)$$

$v = 6.70428225\times10^{-23}$ *m/s*, from Eq. (22)

Substitute values for the magnetic field, *B,* in Eq. (54) and velocity, *v,* from Eq. (22),

$$v = \frac{E}{B} \quad (55)$$

$$E = 6.70428225\times10^{-23}\times5.63487281\times10^{16} \text{C/t} \quad (56)$$

$$E = 3.777777\times10^{-6} \text{C/t} \quad (57)$$

Thus, $E = \frac{F}{q} = \frac{I}{t}$ is seen here as in calculations leading to Eq. (39) and Eq. (40) and thus the concept of field, *E,* is self evident.

Formula to calculate the electric flux, Φ_E

$V = I\times R$, as defined by Ohms law

$V = I\times\frac{v}{e}$, resistance, *R* is substituted by velocity, *v* per unit elementary charge, *e.*

Rearranging symbols in terms of electron volts,

$$eV = I\times v$$

$$eV = I\times\frac{r}{t}$$

$$eV = r\times\frac{I}{t}$$

$$eV = r\times E \quad (58)$$

Thus electron-volts is the electric field, *E,* times distance, *r.*

Pair Production

$$eV = r\times E = r\times\frac{F}{q} \quad (59)$$

Input values for the classical electron radius, force in couplets {ref.1} and elementary charge,

$$eV = 2.817940325\times10^{-15}\times\frac{29.05350661}{1.60217653\times10^{-19}}$$

$$eV = 510998.9213$$

$$keV = 511 \quad (60)$$

The value of 511 keV is the electric field, *E,* manifesting itself through the radius of an electron. Twice 511 keV is used in experiments for pair production.

$$\Phi_E = E\,A$$

$$\Phi_E = \frac{eV}{r}\times r^2$$

$$\Phi_E = eV\times r \quad (61)$$

Here, $r = \pi\times R\times137.036$ (62)

Electric flux is the electron volts through half the wavelength distance of a photon, proton or electron.

The wavelength for an etheric wave is,

$\lambda = 2\pi\times r\times137.036$ {Ref. 1}.

Formula to calculate the magnetic flux, Φ_B

The unit for magnetic flux is the weber or volt-seconds, and the unit of magnetic field is weber per square meter, or tesla.

$$\frac{\Phi_E}{\Phi_B} = v \quad (63)$$

Substitute the values of electric flux from Eq. (61) and Eq. (62),

$$\Phi_B = \frac{\Phi_E}{v} = eV\times\pi\times R\times\frac{137.036}{v} \quad (64)$$

Substitute *e* with *I* × *t,*

$$\Phi_B = It\frac{v}{t}\times\pi\times R\times\frac{137.036}{v} \quad (65)$$

$$\Phi_B = I\times\pi\times R\times 137.036 \quad (66)$$

Magnetic flux is the current, I, through half the wavelength distance of particles such as a photon, proton or electron.

Part 2: Magnetic Flux Quantum, Φ_0

Φ_0, Exists only at c

Magnetic Flux Quantum, Φ_0 in the case of superconductors occurs only at pulsate speed of *c*.

$$\Phi = \mathrm{BA} = \mathrm{I\ R}\ \pi\, 137.036$$

A property of a super current is such that the magnetic flux passing through any area bounded by such a current is quantized. The quantum of magnetic flux is a physical CODATA constant, Φ_0, and is independent of the underlying material of the current carrying super conductor.

$$\Phi_0 = \frac{h}{2e} = 2.067833636\times10^{-15} Wb$$

Mathematical Modeling

For 186

$$\Phi_0 = \frac{h}{2e}$$

$$\Phi_0 = 2.067833636\times10^{-15} Wb \quad \text{[CODATA]} \quad (67)$$

Ether Force

Energy, $E = mc^2$

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

$$E = 1.859222909\times10^{-9}\times\left(2.99792458\times10^{8}\right)^2 J$$

$$E = 1.670986218\times10^{8} J \quad (68)$$

$$E = F\times R$$

Substitute the value for energy from Eq. (68) and 186 radius from Eq. (25),

$$F = \frac{E}{R} = \frac{1.670986218\times10^{8}}{1.380668031\times10^{-36}}$$

$$F = 1.210273708\times10^{44} N \quad (69)$$

The huge ether force of $1.210273708\times10^{44} N$ 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*,

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

I = root of $1.210273708\times10^{44}\times10^{-7}$ [see Eq.(69)]

The factor of 10^{-7} is for voltage, $V = a\times10^{-7}$ and voltage is proportional to current, *I* [Eq. (83)].

$$I = 3.478898832\times10^{18} A$$

$$\Phi_0 = \frac{3.478898832\times10^{18}}{1.380668031\times10^{-36}}\times A\ Wb$$

$$\Phi_0 = 2.519721434\times10^{54}\times A\ Wb$$

$$A = 8.206596204\times10^{-70}\ m^2 \quad (70)$$

$$A = \pi\times R^2\times137.036\ m^2 \quad (71)$$

This formula for area, *A*, was arrived at by dividing the area in Eq. (70) by the area of a circle.

$$A = \pi\times(1.380668031\times10^{-36})^2\times137.036\ m^2$$

$A = 8.206596204\times10^{-70}\ m^2$ [See Eq. (70)]

$$\Phi_0 = \frac{3.478898832\times10^{18}}{1.380668031\times10^{-36}}\times8.206596204\times10^{-70}$$

$$\Phi_0 = 2.067833636\times10^{-15} Wb$$

Magnetic Flux Quantum, Φ_0, is thus giving light to the structure of the 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 from Eq. (69)

$$t = \frac{q}{I} = \frac{1.60217653\times10^{-19}}{3.478898832\times10^{18}}$$

$$t = 4.605412826\times10^{-38}\ s \qquad (72)$$

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

$$c = \frac{r}{t} = \frac{1.380668031\times10^{-29}}{4.605412826\times10^{-38}}\ m/s$$

$$c = 2.99792458\times10^{8}\ m/s$$

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,

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

$\lambda = 2\pi \times 1.380668031\times10^{-36} \times 137.036$

$\lambda = 1.188786353\times10^{-33} m$

Then, for time, *t*, from Eq. (72),

$$v = \frac{\lambda}{t} = \frac{1.188786353\times10^{-33}}{4.605412826\times10^{-38}}\ m/s$$

$$v = \frac{\lambda}{t} = 25812.80761\, m/s \text{ [Von Klitzing constant]} \qquad (73)$$

Herein lies the meaning of and cause of superconductivity.

$$c = \frac{r}{t} = \frac{1.380668031\times10^{-29}}{4.605412826\times10^{-38}} = 2.99792458\times10^{8}\ m/s$$

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.

An Electron

The force in couplets {Ref. 1},

$I^2 = 29.05350661 N$

$I = \sqrt{29.05350661\times10^{-7}}$

$$I = 1.70450892\times10^{-3} A \qquad (74)$$

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

$A = \pi \times (2.817940325\times10^{-15})^2 \times 137.036$

$$A = 3.418598753\times10^{-27}\ m^2 \qquad (75)$$

$$\Phi_0 = \frac{1.70450892\times10^{-3}}{2.817940325\times10^{-15}} \times 3.418598753\times10^{-27}$$

$$\Phi_0 = 2.067833735\times10^{-15}\ Wb$$

The formula for area works for an electron, as did for 186.

A proton:

$$F = \frac{mc^2}{r}$$

$$F = \frac{1.672622216\times(2.99792458\times10^{8})^2}{1.534697799\times10^{-18}} N$$

$$F = 9.79526966\times10^{7} N \qquad (76)$$

I = root of $F \times 10^{-7} A$

$$I = 3.129739551\ A \qquad (77)$$

$A = \pi \times (1.534697799\times10^{-18})^2 \times 137.036$

$A = 1.013982096\times10^{-33} m^2$

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

$$\Phi_0 = \frac{3.129739551}{1.534697799\times10^{-18}} \times 1.013982096\times10^{-33} Wb$$

$\Phi_0 = 2.067833735\times10^{-15} Wb$

$$B = \frac{I}{r} = 2.039319763\times10^{18}\ A/m \qquad (78)$$

Square both sides, yields force over area which is pressure.

$$B^2 = \frac{I^2}{r^2} = (2.039319763\times10^{18})^2 \qquad (79)$$

$$B^2 = 4.158825096 \times 10^{36} \quad (80)$$

$$B^2 = \frac{F}{r^2} = \frac{9.79526966 \times 10^7 \times 10^{-7}}{(1.534697799 \times 10^{-18})^2}$$

Substitution of the force value from Eq. (76) yields the same value as in Eq. (80).

$$B^2 = 4.158825096 \times 10^{36}\ N/m^2$$

The nature of the square of magnetic field, *B* is thus elucidated as pressure.

Formulas newly derived:

The formulas listed below will help model a super conductor with nanotechnology.

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

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

$$B^2 = \frac{I^2}{r^2} = \frac{F}{A} = Pressure$$

$$\Phi = \mathrm{BA} = \mathrm{I\,R} \times \pi \times 137.036$$

Magnetic Flux Quantum, Φ_0, occurs only when, $q^2 = m \times r \times 10^7$ at the speed of light, *c*.

$$B^2 = \frac{I^2}{r^2} = \frac{F}{A} = Pressure$$

Part 3: Anti-Gravity

Electro-magnetic levitation

Utilizing data from a basic experiment the effect of accelerating 186 masses is shown to demonstrate a levitation effect. The electromagnetic force is mathematically proven to be equal to and opposing to the gravitational force. Furthermore, the electromagnetic acceleration is seen to be exactly the same as acceleration due to gravity for levitation. The gravitational field, *a,* and voltage, *V,* point to the same phenomenon: a measure of accelerating 186 mass.

Introduction

Terms like anti-gravity, levitation, and maglev come to mind when we see objects floating without a visible support. Maglev trains, tokamak machines for confining plasma within torroidal rings are examples of applications of levitation principles.

But what is the actual basis for levitation? Can it be related to anti-gravity? If so, how can we properly define anti-gravity?

If anti-gravity can be defined as the effect of reducing or canceling a gravitational field, then at the same time, an opposing force must in essence *be of the same nature as* the gravitational force. This means that we must prove that electromagnetic forces and gravitational forces arise from the same source. In other words, prove that the gravitational field, *a,* and voltage, *V,* are finally the same term and a measure of accelerating 186 mass.

Unifying Gravity and Electromagnetism

Voltage, V, redefined as acceleration, a.

Ampere squared is redefined as force. Resistance is redefined as velocity of a photon body *per* unit charge, *q,* or *e*. But first, let's see how voltage, *V,* is acceleration.

Electron volt energy, *eV,* is converted to joules, *J,*

$$eV \times e = J \quad (81)$$

$$V = \frac{J}{e^2} \quad (82)$$

Substituting the value of e^2 yields,

$$V = \frac{Mc^2}{M \times R \times 10^7}$$

$$V = \frac{\cancel{M}R^2}{\cancel{M} \times t^2 \times R \times 10^7}$$

$$V = \frac{R}{t^2 \times 10^7} \quad (83)$$

Voltage is thus acceleration of the surface of a pulsating photon body.

Now let us look at ampere squared as force.

Ampere squared, I^2, is force, *F*

$$q = I \times t$$

Square both sides and rearrange terms,

$$I^2 = \frac{q^2}{t^2} \quad (84)$$

$$I^2 = \frac{M \times R \times 10^7}{t^2}$$

$$I^2 = M \times a$$

$$I^2 = F,\ force \quad (85)$$

These derivations signify that ampere squared, amp^2, in electricity is directly related to the acceleration, a, of a photon mass.

Further, resistance, R, ohms, is simplified to, $R = \frac{velocity, v}{q}$

The gravitational field, $g = \frac{F}{m} = \frac{I^2}{m}$, which implies that force per unit mass is the same as current squared per unit mass.

The electric field, $E = \frac{F}{q} = \frac{I}{t}$

Magnetic Field, $B = \frac{I}{R} = \frac{F}{qv}$

By utilizing a problem the reason for levitation will now be calculated.

Problem

Place a 0.50 m horizontal section of conductor with a mass of 8.00g at 90 degrees to a 0.400 T magnetic field. For this conductor to seem weightless the magnitude and direction of current required is conventionally worked out as follows:

The magnetic force experienced by the conductor must be opposite and equal to the weight of the conductor.

The weight of the conductor,

$$F = 0.008kg \times \frac{9.8N}{kg} = 0.0784N \quad (86)$$

The magnetic force on the conductor is,

$$F = BIL \sin\theta \quad (87)$$

$$0.0784N = 0.40T \times I \times 0.50m \times Sin90$$

$$I = 0.392A \quad (88)$$

So, current, I, of 0.392 A is required to flow through the 0.50m conductor placed 90 degrees to the magnetic field, B, of strength 0.40 T for a levitation effect.

Let us consider current generated by the magnetic field, B, of 0.4 T on 0.5m length of the conductor.

$$\mathrm{I} = 0.4\,\mathrm{T} \times 0.5\,\mathrm{m} = 0.2\,\mathrm{A} \quad (89)$$

Method 1: *Current Squared & Gravitation*

Gravitational force, $\mathrm{Fgrav} = \mathrm{I}^2$ (90)

The weight of the conductor,

$$\mathrm{F} = 0.008\,\mathrm{kg} \times \frac{9.8\,\mathrm{N}}{\mathrm{kg}} = 0.0784\,\mathrm{N} \quad (91)$$

The currents from Eq. (88) and Eq. (89) yield,

$$0.0784\,\mathrm{N} = 0.392\,\mathrm{A} \times 0.2\,\mathrm{A} \quad (92)$$

[Reason for levitation]

Thus, we have clearly demonstrated with experimental data that the force of gravity equals the force from two current sources, namely the magnetic field, B, that contributes 0.2 A and additional input current of 0.392 A for levitation.

Method 2: *Magnetic field & Gravitation*

The magnetic field, B due to current, I from Eq. (88) across the length of the conductor,

$$B = \frac{I}{L} \quad (93)$$

$$\mathrm{B} = \frac{0.392}{0.5} = 0.784 \quad \text{Input field} \quad (94)$$

$$\mathrm{B} = 0.4 \quad A/m \text{ External field} \quad (95)$$

The combined fields from Eq. (94) and Eq. (95),

$$B^2 = 0.784 \times 0.4 = 0.3136 \quad (96)$$

$$B = 0.56 \ A/m \quad (97)$$

$$I = B \times L = 0.56 \times 0.5 = 0.28 \quad (98)$$

$$I^2 = 0.282 = 0.0784 \text{ N} \quad (99)$$

The resultant force due to the combined magnetic field strengths equals the weight of the conductor as calculated in Eq. (86).

Method 3: *Acceleration & Gravitation*
If 0.392 A current is present within 0.008 kg mass of a conductor, then we can check how much is present over 186 mass of ether.

$$\frac{0.392}{0.008} = \frac{I_{186}}{1.859222909 \times 10^{-9}} \quad (100)$$

$I_{186} = 9.110192254 \times 10^{-8} A$, is the current flow of a single 186-ether particle. (101)

$$V = I\,R = I \times \frac{I}{m} \text{ or acceleration,} \quad (102)$$

$a = F/m$ [volt=acceleration, Force = I^2]

Acceleration, *a* of, $V = \frac{(9.110192254 \times 10^{-8})^2}{1.859222909 \times 10^{-9}}$

$$V = 4.463994204 \times 10^{-6} \ m/s^2 \quad (103)$$

Similarly, $V = \frac{I^2}{m} = \frac{0.2^2}{1.859222909 \times 10^{-9}}$ (104)

$$V = 2.151436485 \times 10^{7} \ m/s^2 \quad (105)$$

Acceleration, a of 186 of magnetic field, *B* is volt, [Levitation in terms of acceleration]

$$(9.8)^2 = 4.463994204 \times 10^{-6} \times 2.151436485 \times 10^{7}$$

The combined voltage or accelerations in Eq. (103) and Eq. (105), yield acceleration due to gravity, *g* of 9.8 m/s².

The uniform magnetic field, B of 0.4 T produces a force of 0.04N or a current of 0.2 A, by the acceleration of 186 from Eq. (105),

$$F = 1.859222909 \times 10^{-9} \times 2.151436485 \times 10^{7} \ N$$
$$F = 0.04 \ N \quad (106)$$

Force, $I^2 = 0.2^2 \ A^2 = 0.04$ N

The time, *t* for this 186-ether acceleration,

$$a = 2.151436485 \times 10^{7} = \frac{1.380668031 \times 10^{-29}}{t^2} \quad (107)$$

$$v = \frac{1.380668031 \times 10^{-29}}{8.010882648 \times 10^{-19}} = 1.723490521 \times 10^{-11} \quad (108)$$

$$I = mv = 1.160435741 \times 10^{10} \times 1.723490521 \times 10^{-11} \ A$$
$$I = 0.2 A$$

Thus, current is the momentum of one coulomb charge.

Remarks
Acceleration due to gravity, acceleration of photons, is now defined as voltage. Voltage is the unifying physical unit of acceleration due to gravity and electro-magnetism.

The acceleration due to gravity, *g*, is numerically equal to *a* where both, have the units of volts or meter per second squared.

$$g = a = Volts = \frac{m}{s^2} \quad (110)$$

The uniform magnetic field, *B*, of 0.4 T produces a force of 0.04N and a current of 0.2A, by the acceleration of 186-ether. Application of this understanding of anti-gravity, in terms of acceleration of 186-ether mass, will radically reduce our energy input for mass transit.

Part 4: 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, $a = \frac{v^2}{r}$

$$v^2 = a\,r = 9.8 \times 1.5347 \times 10^{-18} \quad (111)$$

$$v = 3.878148841 \times 10^{-9} \quad (112)$$

$$I = 1.160435741 \times 10^{10} \times 3.878148841 \times 10^{-9} \quad (113)$$

$$I = 45.00342524\ A \quad (114)$$

$$I^2 = 2025.308283\ N \quad (115)$$

$$F = I^2 \times 10^7\ N = 2.025308283 \times 10^{10} \quad (116)$$

$$M = \frac{F}{a} = \frac{2.025308283 \times 10^{10}}{9.8} \quad (117)$$

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

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

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

$$m = 1.534697799 \times 10^{-18} \times 1.346611109 \times 10^{27} \quad (118)$$

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

Gravity arises from acceleration of ether

Method 2

$$q^2 = m \times r \times 10^7 \text{ and } a = \frac{v^2}{r}$$

$$q^2 \times a = m \times r \times 10^7 \times \frac{v^2}{r} \quad (119)$$

$$q^2 \times a = F \times r = Energy \text{ of a proton}$$

Substitute the $1.160435741 \times 10^{10}$ kg ether velocity, $v = 3.878148841 \times 10^{-9}$ from Eq. (112) into Eq. (119),

$$(1.60217653 \times 10^{-19})^2 \times 9.8 \times 10^7 = 1.67 \times 10^{-27} \times (3.878148841 \times 10^{-9})^2 \quad (120)$$

The above math clearly establishes the velocity, v of ether with acceleration due to gravity.

Gravity arises from acceleration of ether

Part 5: Heat, *H*

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.

Introduction

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.

Proof

Heat, $H = I^2 \times R \times t$ (121)

$$H = 1.859222909 \times 10^{-9} \times \frac{v^2}{q} \quad (122)$$

Problem

$$H = (7.779888747 \times 10^{-13})^2 \times 4.184484125 \times 10^{-4} \times 2.059382315 \times 10^{-7}$$

$$H = 5.215857007 \times 10^{-35} \quad (123)$$

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

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

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.

$$m \times v^2 = 3 \times k \times T \quad (124)$$

$$2 \times 1.672622216 \times 10^{-27} \times 1927.31^2 = 3 \times 1.380668031 \times 10^{-23} \times 300$$

$$eVe = mv^2$$

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

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

Acceleration, $a = 4.840723482 \times 10^{11}\ m/s^2$ (125)

$$F = m \times a$$

$$F = 1.859222909 \times 10^{-9} \times 4.840723482 \times 10^{11} = 900\ N$$

$$F = 3 \times 300\ \text{Kelvin} \quad (126)$$

Thus we can see that the energy or heat content of 186 equals the energy or enthalpy of the hydrogen molecule.

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

Conclusion

Gravity, *g,* is acceleration. Voltage, *V,* is acceleration. Gravity and voltage represent the same phenomenon. The 1.859222909×10^{-9} kg mass herein referred to as "186" represents intrinsic charge, *e*. The velocity of 1.859222909×10^{-9} kg ether is a measure of resistance, *R,* and equal to *v/e.* The acceleration of 1.859222909×10^{-9} kg ether mass is measured as voltage, *V*. Current, *I,* is the root of any force.

Elementary charge times volt times charge, *eVe,* and joules represent energy. ***Electron volts, eV, do not represent energy.*** The field is the ether fabric composed of myriads of 1.859222909×10^{-9} kg masses. Flux is angular momentum of one coulomb charge intrinsic to 1.160435741×10^{10} kg photon mass.

The energy of 1.859222909×10^{-9} kg mass is shown to be radiant heat energy.

The ubiquitous ether is built up of material point masses called 186. The 186 mass is the source of electro-magnetism and gravity. The pulsation of 186 by a factor of 137.036 is the source of electro-magnetic waves in matter and ether at-large. A source wave-maker ripples ether. The transmitted etheric wave carries information in the form of parameters such as wavelength, frequency, mass, and time-period distribution. The target photon cladding the nucleus of an atom is struck by this incoming etheric wave front and attains a new energy level. There is redistribution of mass within a time-period and new photon pair is created. Etheric waves arrive and orchestrate particles to new parameters such as mass, frequency, and radius.

Thus matter comprised of photon clusters and contained ether and ether at-large participate in the phenomenon of electromagnetism and gravity. Gravity is measured in terms of force, acceleration, mass, time, length, and speed. Force is current squared, acceleration is voltage, mass is a measure of photon clusters per 186 seed, and length is the mean volumetric radius of a photon body. Time is time period and is the inverse of frequency.

The participation of 186-ether in electromagnetic phenomena and gravity has been evinced with many experimental examples in this research. The proton as a test particle elaborates this unity. The radius of a proton is theoretically worked out to be $1.534697799\times10^{-11}$ *m.*

Electricity is defined by three parameters, namely, voltage, current, and resistance. Voltage, *V,* is determined to be the acceleration of a photon, current squared, I^2, to be the force exerted by a photon, and resistance, *R,* the surface tangential velocity per unit charge. Thus, as measured in electricity, the pulsations of a photon body are responsible for voltage, current, and resistance. Science describes voltage in units of joules per coulomb. However, voltage, in fact, simply describes the acceleration of a dynamic photon, while current squared is the force which arises out of an accelerating photon body and resistance is simplified to velocity of a photon body per unit charge.

A particle appears as a contained region is space-time with less mass and energy as the etheric mass it emanates out of. This is in contrast to Einstein's thinking that a particle is a limited region in space where the energy density is particularly high. It is in fact just the opposite.

Charge squared is the pulsation of a photon or electron mass through its mean volumetric radius.

Here then is connectedness and action at a distance revealed between matter and the fabric of space-time which is ether. When photons pulsate at 137 × *R*, the pulsation yields lambda, λ, the wavelength that is transmitted at the speed of light, *c,* as a wave front through the etheric field. It is the compression and rarefaction of the photon body cocooning the 186 mass embedded in ether that is responsible for etheric waves at-large.

Importantly, frequency is conserved, at least over short distances! Furthermore, these ether waves are a measure of gravity or electromagnetism.

A final word: the error in designating electron-volts, *eV*, as energy ultimately led me to the solution that equates voltage with acceleration due to gravity. Electron volts, *eV*, is the electric field, *E*, through distance, *r*. This is simply GEM, or unity of **G**ravity and **E**lectro-**M**agnetic phenomena.

Significance

Heat transfer attributed to 186 gives a whole new dimension to the topic of thermodynamics and frontier energy. Here are some practical implications of this research.

Superconductivity and energy solutions are near at hand, now that magnetic flux, $\Phi = \mathrm{BA} = \mathrm{I\,R}\,\pi 137.036$ is implicated in gravity, heat and electromagnetism.

Frequency signatures of ether waves will destine cancer cells and microbial cells to lyses.

Levitation of trains and mass transit systems can be mathematically worked out with the anti-gravity model, and lead the way to the next level of transport technologies. Petroleum dependency could be minimized worldwide, lending hope for peace and stability within societies.

The cross section area formula of an electron/photon, $\mathrm{A} = \pi\,\mathrm{R}^2\,137.036$, is a step towards construction of the photon fractal using nanotechnology. This brings with it huge implications for the trapping and transfer of solar energy to heat and light.

The understanding of the paradigm shift in this research makes things easier for students to grasp the pure sciences.

Newly Derived Formulae

Magnetic flux, $\Phi = \mathrm{BA} = \mathrm{I\,R}\,\pi 137.036$

Cross section area of an electron/photon, $\mathrm{A} = \pi\,\mathrm{R}^2\,137.036$

Electric Field, $\mathrm{E} = \frac{\mathrm{I}}{\mathrm{t}}$; Magnetic Field, $\mathrm{B} = \frac{\mathrm{I}}{r}$

Resistance, $\mathrm{R} = \frac{\mathrm{I}}{m}$

Electron volts, $eV = E \times r$

The proton radius, $1.534697799 \times 10^{-11} m$

$$Pressure = B^2 = \frac{I^2}{r^2} = \frac{F}{A}$$

Light speed, $c = \frac{r}{t} = \frac{1.380668031 \times 10^{-29}}{4.605412826 \times 10^{-38}}\, m/s$

Von Klitzing constant, Rk, due to 186,

$$v = \frac{\lambda}{t} = \frac{1.188786353 \times 10^{-33}}{4.605412826 \times 10^{-38}} = 25812.80761\, m/s$$

S.I. Values CODATA Recommended

Parentheses indicate uncertainty in the last digits of the value.

Descriptor, Symbol	Value, Units
Mass of an electron,	$9.1093826(16) \times 10^{-31}$ kg
Planck's constant, h	$6.6260693 \times 10^{-34}$ J s
Speed of light, c	2.99792458×10^{8} m/s
Elementary charge, q_e	$1.602176537 \times 10^{-19}$ C
Electron radius, R_e	$2.817940325 \times 10^{-15}$ m
Alpha, α	$7.2973525504 \times 10^{-3}$
Von Klitzing constant, Rk	$25\,812.807\,557(18)\,\Omega$
Gravitational constant, G	$6.6742(10) \times 10^{-11}$ m^3/kg.s^2
Dielectric constant, k	$8.987551787 \times 10^{9}$ Nm^2/C^2
Magnet flux quantum Φ_0	$2.067\,833\,667(52) \times 10^{-15}$ Wb

Note: You will notice the radii of the proton or 186 changing in different situations by a factor of 10^{-7} or 10^{7}. This has to do with the two-mass body structure of the ether mass associated with one coulomb charge {Ref. 1},

$$\frac{(1.160435741 \times 10^{10})^2}{C^2} = \frac{1.346611109 \times 10^{20}}{C^2}$$

Compare with the ether constant ratio {ref. 1}.

$$\frac{\mathrm{m}}{\mathrm{r}} = 1.3406611109 \times 10^{27}\ kg/m.$$

Reference

[1] F.V. Fernandes, *Photo-Electric Conversions,* Parts 1-8

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