

Infinite Energy Field

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This paper explores the possibility that the so-called static electric field *is not* static. Further, that the field is evolving as well as self sustaining. Also, if it is considered as an open and thus not terminated field, it approaches an infinite energy over a nearly infinite volume and time of expansion.

This requires an input energy from what I call "Energy Space". This is the same Energy Space that created our universe during the Big Bang primordial creation event. In the concept presented in this paper, all electrons and protons are still connected to that energy source through their centers of origin. The mass of the electron and proton is embodied in their standing wave geometry while the dynamic field moves outwards in discrete steps. Each step distance is a fundamental length equal to the classic Compton radius derived from the particle's rest mass energy.

Shells of energy will be formed at a rate of expansion equal to the speed of light outwards from the charge-particle, if the field is un-terminated. In this thought scenario, a particle is suddenly placed into an otherwise empty and nearly infinite volume of space vacuum. Initially, a shell of field energy forms around the particle equal to its rest mass energy. This requires a time such that the Planck frequency times the Compton wavelength is equal to the speed of light. When completed, instantly, the next shell begins to form wherein the same frequency times wavelength is equal to the speed of light constant.

Each shell will have a total energy equal to the particle rest mass energy while the energy density will be decreasing due to the increasing volume of each shell. Thus the field is quantized into layers of energy, much like an onion is built outwards in layers that form individual shells. It will be developed mathematically in the main body of this paper how such a construction may exist and yet be measured by conventional methods to arrive at what is incorrectly considered by contemporary science as a static field.

There is no such thing as a static field if force can be associated with the field's existence. That is, a charge-field is not built as a one-shot event. It continues to flow or it does not exist at all. If it is terminated by a conjugate field, it still *flows* from source to receptor and the result is force. It is a steady state flow if the charges are not moved relative to each other, but the field is flowing at all times.

The return for the field is back into energy space. I envision the actual electron and proton as being in the shape of a standing wave field that forms a torus. Then the field must also build into the same shape. The major axis of each torus is expanding as the shells form outwards while the minor radius is fixed at the Compton radius which is also the connection to energy space. In fact, it will be developed that the necessary volume will utilize the volume of a torus instead of the volume associated with the classical geometric parameters of the electrostatic field. The connection to the Golden Ratio will be the result.

It may be argued that since energy cannot be created or destroyed, what I am advocating is scientific heresy. My counter argument is that my concept above does not involve a closed system. The creation of the universe was not the result of a closed system energy event and neither is my concept of field as presented above and below. In fact, I further propose that once established as a quantum shell of energy, the shell engenders the next shell and so on. This will allow for no voids, if for example, the electron or proton is accelerated from its state of constant velocity. The old field will radiate away as a photon while a new field is formed relative to the new position of the electron or proton. The energy relative to the old field is radiated away but measurement indicates this does not destroy the electron's or proton's ability to engender a new field. The action causing the charge displacement cannot directly create a photon.

The photon is herein viewed a loop of field energy that transfers its energy in alternate half-cycles between negative and positive energy space, never gaining or losing energy overall. Further, it completes each cycle at a time related to its Planck energy and then jumps in quantum fashion instantly to its next quantum wavelength position. Thus a photon is a field of quanta and is not really a wave. However, it can exist orthogonally to its direction instantly along a line 90 degrees to its direction of travel so that in a two slit experiment, it will appear to go through two slits at once, thus being interpreted as a wave action. This applies to particles in general and not just photons by the DeBroglie wave mechanics principle.

The required parameters of calculation in S.I. units are:

$$l_q := 2.817940920 \cdot 10^{-15} \cdot \text{m} \quad q_0 := 1.602177330 \cdot 10^{-19} \cdot \text{coul} \quad \epsilon_0 := 8.854187817 \cdot 10^{-12} \cdot \frac{\text{farad}}{\text{m}}$$

$$c := 2.997924580 \cdot 10^8 \cdot \frac{\text{m}}{\text{sec}} \quad m_e := 9.109389700 \cdot 10^{-31} \cdot \text{kg} \quad \alpha := 7.297353080 \cdot 10^{-03}$$

The geneses of the first 10 field layers is established as: $n := 1, 2 \dots 10$

$$E_p := \frac{q_0^2}{16 \cdot \epsilon_0 \cdot l_q} \cdot \frac{4}{\pi} \quad \Delta \text{Vol}(n) := \left[2 \cdot \pi^2 \cdot [(n) \cdot l_q]^3 \right] - \left[2 \cdot \pi^2 \cdot [(n-1) \cdot l_q]^3 \right] \quad \Delta E_d(n) := \frac{E_p}{\Delta \text{Vol}(n)} \quad 1)$$

The product of the shell volume times the shell energy density is a constant equal to E_p above.

$$\Delta \text{ VOLUME} \quad \times \quad \Delta \text{ ENERGY DENSITY} \quad = \quad \text{SHELL ENERGY CONSTANT, } E_p$$

$\Delta \text{Vol}(n) =$	$\Delta E_d(n) =$	$\Delta \text{Vol}(n) \cdot \Delta E_d(n) =$
4.4169795836 · 10 ⁻⁴³ m ³	1.8535542232 · 10 ²⁹ joule m ³	8.1871111609 · 10 ⁻¹⁴ joule
3.0918857085 · 10 ⁻⁴²	2.6479346045 · 10 ²⁸	8.1871111609 · 10 ⁻¹⁴
8.3922612088 · 10 ⁻⁴²	9.755548543 · 10 ²⁷	8.1871111609 · 10 ⁻¹⁴
1.6342824459 · 10 ⁻⁴¹	5.0096060086 · 10 ²⁷	8.1871111609 · 10 ⁻¹⁴
2.694357546 · 10 ⁻⁴¹	3.0386134806 · 10 ²⁷	8.1871111609 · 10 ⁻¹⁴
4.0194514211 · 10 ⁻⁴¹	2.0368727727 · 10 ²⁷	8.1871111609 · 10 ⁻¹⁴
5.6095640712 · 10 ⁻⁴¹	1.4594915143 · 10 ²⁷	8.1871111609 · 10 ⁻¹⁴
7.4646954963 · 10 ⁻⁴¹	1.0967776469 · 10 ²⁷	8.1871111609 · 10 ⁻¹⁴
9.5848456964 · 10 ⁻⁴¹	8.5417245308 · 10 ²⁶	8.1871111609 · 10 ⁻¹⁴
1.1970014672 · 10 ⁻⁴⁰	6.8396834804 · 10 ²⁶	8.1871111609 · 10 ⁻¹⁴

What will be developed is that the energy measured at increasing distances from the source falls off as 1/r which agrees with classic physics measurements. However, the quantized method will arrive at the same conclusion by taking into account a variable area torus interface that will yield the same results as the classic method utilizing a constant area probe at increasing distances.

Thus, the field is quantized into shells of constant energy, each being a width equal to the classic radius of the electron. This relates to the Heisenberg expression $\Delta E \times \Delta T = h$ so that the field frequency related to the rest mass energy of the electron does not degenerate with distance. For a so called static field, a degenerate frequency or energy field by $\Delta E = h\Delta f$ would amount to destruction of energy which is not allowed since **energy in a closed system (or established shell in this case) cannot be created or destroyed.**

In the classic sense, since a *continuous* field of decreasing energy per unit volume with increasing distance is assumed, this would amount to a decreasing amount of energy in a linear fashion and thus radiation of the field in the form of $\Delta E = h\Delta f$.

It is therefore likely that in the quantized theory presented herein, if we consider the field that reaches outwards from a single electron into an infinitely large untermiated space vacuum, where also the electron is suddenly created in that same isolated space, the total field created over time approaches an infinite energy. Finally, it is also my proposal that the energy that creates the electron and proton field via the geometry of the related torus comes from the same infinite energy space that created the original Big Bang.

In this work, Δ torus volume divided into energy potential yields Δ energy density as shown below:

$$\frac{\left(\frac{q_0^2}{16 \cdot \epsilon_0 \cdot l_q}\right) \cdot \left(\frac{4}{\pi}\right)}{\left(2 \cdot \pi^2 \cdot l_q^3\right)} \text{ simplifies to } \frac{1}{8} \cdot \frac{q_0^2}{\left[\pi^3 \cdot (\epsilon_0 \cdot l_q^4)\right]} \text{ equals energy density } \frac{q_0^2}{\left[8 \cdot \pi^3 \cdot (\epsilon_0 \cdot l_q^4)\right]} \quad 3)$$

A variable *major radius* torus ring is formed as shown in the below equation. The area of a torus is given as 4 times π^2 times the variable major radius $n(l_q)$ times the minor radius l_q . The variable (n) increases the classic electron radius by whole integer steps to form the increasing major radius. This increases the major (circular) radius of the energy torus accordingly. The constant $4/\pi$ is shown as a part of the total particle/field geometry and also yields a fundamental angle related to most all natural growth processes.

Ionized Hydrogen would build an energy field, via the proton torus geometry connection to energy space, greater than the atomic form would allow in the closely terminated atomic form. When the proton recaptures the electron, a great deal of energy stored in the expanded field would suddenly be released.

Below is shown a comparison of the conventional expectation field energy measurement $\Delta E_p(n)$ compared to the area gated form $\Psi_e(n)$ involving the added terms related to the square root of the golden ratio $(4/\pi)$ and the increasing major torus radius $(n \cdot l_q)$ multiplied by the electron classic minor radius (l_q) .

$$\Delta E_p(n) := \frac{q_0^2}{16 \cdot \epsilon_0 \cdot (n \cdot l_q)} \cdot \frac{4}{\pi} \quad \Psi_e(n) := \Delta \text{Vol}(n) \cdot \Delta E_d(n) \cdot \left[\frac{\left(\frac{4}{\pi}\right) \cdot \pi^2 \cdot l_q^2}{\left(\frac{4}{\pi}\right) \cdot \pi^2 \cdot (n \cdot l_q) \cdot (l_q)} \right] \quad 4)$$

$\Delta E_p(n) =$

8.1871111609.10 ⁻¹⁴
4.0935555804.10 ⁻¹⁴
2.7290370536.10 ⁻¹⁴
2.0467777902.10 ⁻¹⁴
1.6374222322.10 ⁻¹⁴
1.3645185268.10 ⁻¹⁴
1.1695873087.10 ⁻¹⁴
1.0233888951.10 ⁻¹⁴
9.0967901787.10 ⁻¹⁵
8.1871111609.10 ⁻¹⁵

kg m² sec⁻²

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8.1871111609.10 ⁻¹⁵

kg m² sec⁻²

The above equation does not cancel like terms to illustrate the possible geometry of the field related to the golden ratio. The terms inside of the above equation's bracket derive a ratio of the increasing torus area in the denominator divided into a fixed probe area corresponding to the fixed area of a measurement of the field.

The first 1000 classic (l_q) electron quantum radii field layers will yield the total summation of energy:

$$n := 1, 2 .. 1000 \quad \Psi_{\text{pot}_e}(n) := \Delta \text{Vol}(n) \cdot \Delta E_d(n) \quad \sum_n \Psi_{\text{pot}_e}(n) = 8.1871111609 \times 10^{-11} \text{ joule} \quad 5)$$

$$\text{Note that the electron rest mass energy is given as: } E_e := m_e \cdot c^2 \quad E_e = 8.187111168 \times 10^{-14} \text{ joule} \quad 6)$$

Obviously, the field cannot be static, as the above analysis shows.

Now let: $h := 6.626075500 \cdot 10^{-34}$ joule·sec and $E_{d\text{torus}} := \frac{q_0^2}{\left[8 \cdot \pi^3 \cdot (\epsilon_0 \cdot l_q^4)\right]}$ 7)

Energy density times the velocity of light yields the Poynting vector power of:

$S := E_{d\text{torus}} \cdot c \cdot \alpha$ or, $S = 4.0550046645 \times 10^{35} \frac{\text{watt}}{\text{m}^2}$ (Alpha (α) reduces c to the velocity of the n1 orbital of Hydrogen.) 8)

Let the Compton electron 'time' be stated as: $t_e := \frac{h}{m_e \cdot c^2}$ $t_e = 8.0933009996 \times 10^{-21}$ sec 9)

Finally, allowing for a **time x area gate** to be applied to the tremendous Poynting vector power above:

$E := (S) \cdot t_e \cdot \pi \cdot l_q^2$ $E = 8.1871112279 \times 10^{-14}$ joule = **electron rest mass energy.** 10)

The utilization of t_e signifies that the electron *pulses* or gates energy from energy space into expanding and thus sequential field layers at the rate of the inverse of the time of t_e . This approximates an onion skin appearance to the field if an onion were shaped like a torus.

The torus shape of the field and of the source electron and proton is arrived at as shown below.

The contemporary or classic form of the electron field arrives at an energy density equation of:

$E_d = \frac{1}{2} \cdot \epsilon_0 \cdot E_v^2$ where E_v is the field in volts/meter: $E_v = \frac{q_0}{4 \cdot \pi \cdot \epsilon_0 \cdot r^2}$ 11)

Then: $E_d = \frac{1}{2} \cdot \epsilon_0 \cdot \left(\frac{q_0}{4 \cdot \pi \cdot \epsilon_0 \cdot r^2}\right)^2$ simplifies to $E_d = \frac{q_0^2}{32 \cdot \pi^2 \cdot \epsilon_0 \cdot r^4}$ (= Classic field.) 12)

$\frac{32 \cdot \pi^2 \cdot \epsilon_0 \cdot l_q^4}{8 \cdot \pi^3 \cdot (\epsilon_0 \cdot l_q^4)}$ simplifies to: $\frac{4}{\pi}$ **This is very close to the square root of the golden ratio which is ubiquitous in the design and growth of natural processes.** 13)

The $4/\pi$ form for the volume ratios of the classic field to the quantum torus field reveals a field that is the basis of unlimited energy by revealing an *evolving* quantum torus structured field instead of a static field.

Therefore, the following is postulated: The universe is not static, since it is expanding. It is growing, or evolving. As a result, it is not a closed system. It has been said, "As above, so below!" Then it should be no surprise to find that the basic particles, such as the electron and proton, are not separate from the same energy field that not only created all matter but drives the universe to expand as well.

This takes us all the way back to my first publication involving my electrogravitational field theory. This work is titled "*Electrogravitation As A Unified Field Theory*," Chapter 1, specifically, pages 8 through 9. Therein I developed the torus model of the electron and the math that supported that conclusion. This work is available for free downloading in Adobe Acrobat PDF format at: <http://www.electrogravity.com>.

For the case of the magnetic field, the electron or proton is first considered as moving along a circular (helix) path in that infinite space vacuum mentioned above. Its rate of inline progress related to its distance of rotation is connected to the $4/\pi$ ratio as outlined above. It is continually creating a magnetic field relative to its charge and velocity. No energy is applied to the electron to aid its motion since it began its existence and yet, the magnetic field is building outwards along the path of the moving charge. It is obvious that this cannot be a static energy scenario even for the simple case of linear non-accelerated motion. As the electron or proton continues to build the field, the electron or proton does not lose any rest mass or charge in the process, but simply continues to generate more magnetic and electric field layers as it moves along.

Now if we accelerate the isolated charge-particle, the field forms a photon and radiates away. Yet, the charge-particle's rest mass energy does not cease to exist or even in the least diminish. Further, the charge associated with that particle does still exist and it also continues to create more field energy without itself being in the least diminished. The 'push' that accelerated the charge creates a rift in the field that will be self-healing. Finally, it is a physical force apart from the rest mass or charge of the particle itself.

Thus, we must conclude that considering a charge field as being 'static' is incorrect. Therefore, a field associated with charge is most likely a *dynamic energy*, capable of *evolving over time*. As a result, the field associated with particle charge is likely supported from the same energy space that created the universe.

Even energy space may be viewed as a torus structure. In fact, it has been suggested by some that our universe may also be a torus structure.

If an observer is standing inside of a torus so that the observer is looking along the axis of the torus, we can imagine that the rotation of the torus wall is moving clockwise as the observer sees it. Now, if the observer is turned 180 degrees in the opposite direction, the wall of the torus will appear to be moving counterclockwise. Then we can ascribe these two different viewpoints as not only positive and negative time but also positive and negative energy, respectively. As a result, the same energy space in the form of a torus can have the economy of exhibiting either positive and negative energy (and time) depending on the orientation of the observer when entering or connected to that space.

Then, field energy may be considered as a connection to torus energy space via the center of the electron or proton, wherein a single half cycle is allowed, either positive or negative according to the direction of the connection inside of the torus. A photon however, alternates in successive half cycles between 'positive' and 'negative' energy space by continually flipping its orientation in the torus geometry of energy space. The net photon energy yields no rest mass energy. However, at any instant, energy related to quantum frequency by $E = hf$ must exist. Charge, on the other hand, is associated with rest mass energy since the field is monopolar in energy sign and time with respect to direction of orientation along the axis in torus energy space. The direction of this torus axis connection must be considered as defining the spin of the charge-particle and as a result, the possible orientations in a quantum sense must be finite.

A half-cycle is equal to π radians = 180 degrees and the angle of rise of the great Pyramid at Giza is equal to the $\text{atan}(4/\pi)$. It has been suggested by some investigators that the Great Pyramid holds a secret that is key to the construct of the universe and also that the Great Pyramid is perhaps as old as 12,000 years or more. The Sphinx may also fall into this category of being far older than contemporary research is able to admit.

The above conceptual view of so-called static fields actually being dynamic and capable of growing to infinite energies in an untermiated scenario is stunningly different than contemporary science will allow us to believe.

If we are to believe that the entire universe was suddenly created from an incomprehensible amount of energy, it is natural to conceive of matter still being connected to that same beginning source, albeit in a much more subtle way. That concept demands growth of structure small as well as large and thus the field energy cannot 'rest' in a static form, and if allowed to grow untermiated, will grow to infinite proportions according to the summation of increasing layers of energy over all time. Contemporary science's measurement of the field amounts to a blind man placing a stick into a steadily moving current of water. He will say, "here is a force! I can feel it against my measuring stick!" He will not see the steady movement of the river. He may rationally conclude that the force must be a 'static' force if it does not change with time.

The Quantum Magnetic Field:

It is developed below that the quantum magnetic field related to unchanging velocity of a charge in open space is far weaker than the corresponding electric field as developed above. The energy density is correspondingly much less for the magnetic field than for the electric field per unit of volume. For a photon, it is established that the energy density for both the electric and magnetic fields are equal. However, this is for the case of a photon or electromagnetic wave wherein the fields were born of accelerating charges and thus give rise to sympathetic and equal energy density field structures.

The case for the isolated and non-accelerated charge's magnetic field genesis is given below. The magnetic expression is based on the least quantum velocity related to what I call the least quantum electrogravitational energy equal to 10.03224805 Hz This frequency and energy is fundamental to my theory of electrogravitational action Firstly, the necessary parameters for calculation are stated:

$$f_{LM} := 1.003224805 \cdot 10^{01} \cdot \text{Hz} \quad \mu_o := 4 \cdot \pi \cdot 10^{-07} \cdot \frac{\text{henry}}{\text{m}} \quad \mu_o = 1.2566370614 \times 10^{-6} \frac{\text{henry}}{\text{m}} \quad (14)$$

$$V_{LM} := \sqrt{\frac{h \cdot f_{LM}}{m_e}} \quad \text{or,} \quad V_{LM} = 0.0854245461 \text{ m sec}^{-1} \quad (15)$$

The potential magnetic energy related to V_{LM} at the classic radius of the electron is therefore:

$$E_{LM} := \left(\frac{\mu_o \cdot q_o^2}{4 \cdot \pi \cdot l_q} \right) \cdot (V_{LM}^2) \quad E_{LM} = 6.6474432951 \times 10^{-33} \text{ joule} \quad (16)$$

Next we determine the magnetic flux energy density \mathbf{B} at the classic radius as follows:

First, the E_{LM} energy above is set equal to the equation that includes \mathbf{B}_{LM} at the same classic radius. Then Mathcad's symbolic equation solver is utilized to find the expression that solves for the magnetic flux density, \mathbf{B}_{LM} . We will then utilize the usual basic equation $E_d = B^2/2\mu_o$ to find the magnetic field energy density.

$$\left(\frac{\mu_o \cdot q_o^2}{4 \cdot \pi \cdot l_q} \right) \cdot (V_{LM}^2) = (q_o) \cdot (V_{LM}) \cdot (B_{LM}) \cdot (l_q) \quad \text{has solution(s):} \quad \mu_o \cdot \frac{q_o}{(4 \cdot \pi \cdot l_q^2)} \cdot V_{LM} \quad (17)$$

[qvBl_q Equal to force x distance = work]

Finally:

$$B_{LM} := \mu_o \cdot \frac{q_o}{(4 \cdot \pi \cdot l_q^2)} \cdot V_{LM} \quad B_{LM} = 172.3572258209 \text{ tesla} \quad \text{where,} \quad 1 \cdot \text{tesla} = 1 \frac{\text{weber}}{\text{m}^2} \quad (18)$$

Also: $1 \cdot \text{tesla} = 1 \frac{\text{volt} \cdot \text{sec}}{\text{m}^2}$

Comparing the above magnetic energy density to the electric field energy density:

$$\text{Magnetic Energy Density} \\ E_{m_d} := \frac{B_{LM}^2}{2 \cdot \mu_o} \quad E_{m_d} = 1.1820045025 \times 10^{10} \frac{\text{joule}}{\text{m}^3} \quad (19)$$

It is immediately apparent that the magnetic field that arises from the least quantum electrogravitational velocity is much weaker than the quantum electric field when non-accelerated charge motion is concerned. This least quantum magnetic field is also associated with the observable gravitational reaction as well. Note that V_{LM} is a least quantum constant angular 'velocity' and is therefore related to constant angular momentum in the quantum sense as in the Heisenberg expression $\mathbf{mvr} = \mathbf{inh}/2\pi$.

The volume is solved for below related to the magnetic field potential energy divided by the magnetic field energy density as shown above.

$$\text{Volume} = \frac{E_{LM}}{E_{m_d}} \quad \text{Then:} \quad \frac{\left[\left(\frac{\mu_o \cdot q_o^2}{4 \cdot \pi \cdot l_q} \right) \cdot (V_{LM}^2) \right]}{\left[\frac{\mu_o \cdot \frac{q_o}{(4 \cdot \pi \cdot l_q^2)} \cdot V_{LM}}{2 \cdot \mu_o} \right]^2} = E_{LM} \quad \text{simplifies to} \quad (8 \cdot \pi \cdot l_q^3) \quad 20)$$

$$= \frac{B_{LM}^2}{2 \cdot \mu_o}$$

The ratio of the above classic volume to the torus volume expression is:

$$\frac{8 \cdot \pi \cdot l_q^3}{2 \cdot \pi^2 \cdot l_q^3} \quad \text{simplifies to} \quad \frac{4}{\pi} \quad 21)$$

The contemporary classical form of expressing electric field energy potential divided by energy field density is shown in the following expression:

$$\frac{\left(\frac{q_o^2}{4 \cdot \pi \cdot \epsilon_o \cdot l_q} \right)}{\left(\frac{q_o^2}{32 \cdot \pi^2 \cdot \epsilon_o \cdot l_q^4} \right)} \quad \text{Electric Field Energy Potential} \quad \text{simplifies to} \quad (8 \cdot \pi \cdot l_q^3) \quad \text{which is the same volume we arrived at for the magnetic field volume above related to it magnetic energy potential divided by its energy density.} \quad 22)$$

(Non-torus field)

The reason the beginning analysis utilized the volume of a torus is so that equation (10) above would arrive at the correct energy for the rest mass energy of the electron. If the strict classical non-torus form of volume is used, the electric field energy will be lower than required to arrive at the correct rest mass energy for the electron by $1/(4/\pi)$. This was the fundamental reason why the electron was ascribed the geometry of a torus in my beginning works as well as present field analysis. Utilizing the torus energy density, the torus volume is shown for the electric field as shown below:

$$\frac{\left(\frac{q_o^2}{4 \cdot \pi \cdot \epsilon_o \cdot l_q} \right)}{\left[\frac{q_o^2}{8 \cdot \pi^3 \cdot (\epsilon_o \cdot l_q^4)} \right]} \quad \text{simplifies to} \quad 2 \cdot \pi^2 \cdot l_q^3 \quad \text{This is the area of a circle times a circumference through the axis of rotation of that same circle.} \quad 23)$$

Then we may find the energy density expression that relates to the quantum magnetic field torus as we did for the electric field above.

$$\frac{\left(\frac{\mu_o \cdot q_o^2}{4 \cdot \pi \cdot l_q}\right) \cdot (V_{LM}^2)}{2 \cdot \pi^2 \cdot l_q^3} \quad \text{simplifies to} \quad \frac{\mu_o \cdot q_o^2}{(8 \cdot \pi^3 \cdot l_q^4)} \cdot V_{LM}^2 = 1.5049748746 \times 10^{10} \frac{\text{joule}}{\text{m}^3} \quad 24)$$

which is similar to the electric field energy density of equation (3) above of:
$$\frac{q_o^2}{[8 \cdot \pi^3 \cdot (\epsilon_o \cdot l_q^4)]} \quad 25)$$

Then let the torus form of energy density be stated below as:

$$\text{E}_{\text{mtd}} := \frac{\mu_o \cdot q_o^2}{(8 \cdot \pi^3 \cdot l_q^4)} \cdot V_{LM}^2 \quad \text{or,} \quad \text{E}_{\text{mtd}} = 1.5049748746 \times 10^{10} \frac{\text{joule}}{\text{m}^3} \quad 26)$$

The ratio of the torus electric field energy density to the torus magnetic field energy density is:

$$\frac{\left[\frac{q_o^2}{[8 \cdot \pi^3 \cdot (\epsilon_o \cdot l_q^4)]} \right]}{\left[\frac{\mu_o \cdot q_o^2}{(8 \cdot \pi^3 \cdot l_q^4)} \cdot V_{LM}^2 \right]} \quad \text{Electric Field Torus Energy Density}$$

simplifies to
$$\frac{1}{[\epsilon_o \cdot (\mu_o \cdot V_{LM}^2)]} = 1.2316180518 \times 10^{19} \quad 27)$$

Magnetic Field Torus Energy Density

which is a 19 magnitudes number expressing the ratio of electric to magnetic field torus energy density.

Multiplying the inverse of the above ratio ratio by the square of the speed of light and taking the square root of the result, we have:

$$\sqrt{\left[\frac{1}{[\epsilon_o \cdot (\mu_o \cdot V_{LM}^2)]} \right]^{-1}} \cdot c^2 = 0.0854245461 \text{ m sec}^{-1} \quad \text{which is the least quantum magnetic and electrogravitational velocity as stated in the beginning.} \quad 28)$$

where: $V_{LM} = 0.0854245461 \text{ m sec}^{-1}$

It turns out that the least quantum magnetic field energy related to the electrogravitational (gravitational) action is at a temperature (in degrees Kelvin) in what is called the Bose-Einstein condensate range where very weird quantum things happen such as Helium forming geysers and climbing up the sides of its container. Also, the particles at this temperature act as one large particle sharing the same quantum wavelength.

Solving for the temperature T in degrees Kelvin related to the least quantum magnetic energy:

$$E_{LM} = \frac{3}{2} \cdot k \cdot T \quad \text{has solution(s)} \quad \frac{2}{3} \cdot \frac{E_{LM}}{k} \quad \text{where,} \quad k := 1.380658000 \cdot 10^{-23} \frac{\text{joule}}{\text{K}} \quad 29)$$

$$\text{Then: } T_{LM} := \frac{2}{3} \cdot \frac{E_{LM}}{k} \quad \text{or,} \quad T_{LM} = 3.209794796 \times 10^{-10} \text{ K} = 321 \text{ pico Kelvins.} \quad (30)$$

A Helsinki group reportedly has recently reached the vicinity of 100 pico Kelvins. Electrogravitational effects may quite likely appear at or near the above temperature since it represents the least quantum electrogravitational energy posited not only by this paper but other work as presented by myself previously at the above named website. This includes geysiring of Helium as well as crawling up and out of the container. Also, the repulsion of magnetic fields may be expected if the magnetic field is of the open form and not part of a torus geometry which is the closed standing wave field in the superfluid condensate temperature range. It is even possible that a least quantum phonon energy less than $E_{LM} = m \times V_{LM}^2$ may shed V_{LM} and convert to mass only since V_{LM} is the absolute lower limit of angular momentum.

As in the manner of equations (8) and (10) above, we will solve for the Poynting vector S_{LM} related to the magnetic energy density $\times c$. Then, area \times time yields an energy equal to the electrogravitational energy, E_{LM} .

$$S_{LM} := E_{md} \cdot c \cdot \alpha \quad S_{LM} = 3.2924206157 \times 10^{16} \frac{\text{watt}}{\text{m}^2} \quad (31)$$

$$\text{Area} \times \text{time gate of } S_{LM}: \quad E_{SLM} := (S_{LM}) \cdot t_e \cdot \pi \cdot l_q^2 \quad E_{SLM} = 6.6474433496 \times 10^{-33} \text{ joule} \quad (32)$$

$$\text{Finally: } \frac{E_{LM}}{E_{SLM}} = 0.9999999918 \quad (33)$$

This may also be the secret as to why the Great Pyramid has a $4/\pi$ ratio of the height to $1/2$ the length of the base. It is suggested that it may be of interest to measure the energy available from a good conductor stretched from the base of the pyramid to its apex. Especially a superconductor.

The electrogravitational force between two electrons separated by the first energy shell ($n1$) radius of the Bohr H1 atom is given as:

$$F_{EG} := \left(\frac{E_{SLM}}{l_q} \cdot \alpha^2 \right) \cdot \mu_o \cdot \left(\frac{E_{SLM}}{l_q} \cdot \alpha^2 \right) \quad F_{EG} = 1.9829731165 \times 10^{-50} \text{ newton} \cdot \frac{\text{henry}}{\text{m}} \cdot \text{newton} \quad (34)$$

The above equation shows that E_{SLM} is equal to E_{LM} . This implies that the gravitational frequency that shows up to an observer is extremely close to what is called the Schuman frequency between 7.83 and 8.00 Hz. This is perhaps incorrectly *assumed* to be electrical/magnetic resonance between the ionosphere and the Earth but is actually the electrogravitational frequency f_{LM} divided by $4/\pi$.

$$f_{ESLM} := \frac{E_{SLM}}{h} \quad \text{or,} \quad f_{ESLM} \cdot \left(\frac{4}{\pi} \right)^{-1} = 7.8793092503 \text{ Hz} \quad f_{LM} \cdot \left(\frac{4}{\pi} \right)^{-1} = 7.8793091932 \text{ Hz} \quad (35)$$

The product of $4/\pi$ times $4/\pi$ yields a number extremely close to what is called the Golden Ratio. Then it is suggested by above result that the action of gravity embodies the structure of the geometry connected to the ubiquitous Golden Ratio found in most all processes involving natural growth.

Eq. 19 above is the open field in deference to a standing wave torus structure connected with the quantum ohm which does not radiate electromagnetically and is considered to be a closed field. The open field is connected to the free space resistance which is connected to electromagnetic radiation.

$$S_{rad} := E_{md} \cdot c \cdot \alpha \quad S_{rad} = 2.5858611047 \times 10^{16} \frac{\text{watt}}{\text{m}^2} \quad (36)$$

$$E_{\text{Srad}} := (S_{\text{rad}}) \cdot t_e \cdot \pi \cdot l_q^2 \quad E_{\text{Srad}} = 5.220889798 \times 10^{-33} \text{ joule} \quad 37)$$

$$f_{\text{Srad}} := \frac{E_{\text{Srad}}}{h} \quad f_{\text{Srad}} = 7.8793092503 \text{ Hz} \quad \text{Which is very close to the well known Schuman frequency that is considered to occur via an Earth-ionosphere resonance.} \quad 38)$$

Note that: $\frac{f_{\text{LM}}}{f_{\text{Srad}}} = 1.2732395355$ where f_{LM} is the closed volume torus (mass) and thus quantum ohm related frequency while f_{Srad} is the open free space resistance related frequency having no rest mass. 39)

where, $\frac{4}{\pi} = 1.2732395447$ 40)

Therefore, the 7.83 Hz Schuman frequency may be expected to exist on other planets having atmospheres that can be jostled about by the electrogravitational action as outlined above.

Finally, we would expect a different Schuman frequency cavity resonance according to the size of the cavity formed by the volume between the upper atmosphere and the ground mass. Also, due to the rise and fall of the distance between the upper atmosphere and the ground due to night and day solar effects, the frequency should shift accordingly. I have not heard of this as being the case here on Earth which suggests that if the Schuman frequency is fairly constant, therefore, it is not likely due to Earth to sky cavity resonance which should be affected by day to night heating variations affecting the volume and thus frequency of resonance.

It has been presented above that our universe is not likely a closed system, and therefore, it is quite possibly the fields connected with the field generating particles are not isolated from the same energy that created the Big Bang in the very beginning.

Perhaps negative energy and dark matter arises from 'shed' least quantum angular velocity from least quantum angular momentum that in effect creates mass which later on acquires energy by being jostled about by other mass and energy.

In closing, I prefer to think of "static", when applied to fields, as being at the very least an unfortunate limiting concept to what is actually occurring.

Ω

Reference:

<http://www.electrogravity.com>