THE FLUXOID QUANTUM AND ELECTROGRAVITATIONAL DYNAMICS

Chapter 8

This work extends chapter 6 titled, "Field Mass Generation and Control", while also developing a new conceptual approach to mass-field vehicle control utilizing the invariance of the electric and magnetic forms of the Fluxoid Quantum in the Lorentz transforms which are an intregal part of Einstein's Special Theory of Relativity.

This is a direct application of the principle that if a process may be made reversible then the cause may be invoked by reversing the effect. In otherwords, a velocity increase may be made to occur by invoking a relativistic time increase by linking that action through a mechanism involving (in this case) the invariant quantum fluxoid constant in its electrical form and an increase in time of that electrical parameter through a lowering (in step fashion) of its interaction frequency.

First let the following pertinent parameters be introduced for the purpose of running the active Mathcad forms of this book.

$q_o := 1.602177330\cdot 10^{-19}\cdot \mathrm{coul}$ Electron charge.

$\varepsilon_o := 8.854187817\cdot 10^{-12}\cdot \mathrm{farad}\cdot \mathrm{m}^{-1}$ Electric permittivity of free space.

$\mu_o := 1.256637061\cdot 10^{-06}\cdot \mathrm{henry}\cdot \mathrm{m}^{-1}$ Magnetic permeability of free space.

$V_{n1} := 2.187691417\cdot 10^{06}\cdot \mathrm{m}\cdot \mathrm{sec}^{-1}$ Bohr n1 orbital velocity of Hydrogen.

$m_e := 9.109389700\cdot 10^{-31}\cdot \mathrm{kg}$ Electron rest mass.

$r_{n1} := 5.291772490\cdot 10^{-11}\cdot \mathrm{m}$ Bohr radius of n1 orbital.

$l_q := 2.817940920\cdot 10^{-15}\cdot \mathrm{m}$ Classic electron radius.

$r_{LM} := 1.355203611 \cdot 10^{-03} \cdot m$ Quantum Electrogravitational radius.

$t_{n1} := 1.519829860 \cdot 10^{-16} \cdot sec$ Bohr n1 orbital time.

$v_{LM} := 8.542454612 \cdot 10^{-02} \cdot m \cdot sec^{-1}$ Quantum electrogravitational velocity.

$i_{LM} := 1.607344039 \cdot 10^{-18} \cdot amp$ Quantum electrogravitational current.

$R_{Q} := 2.581280560 \cdot 10^{04} \cdot ohm$ Quantum Hall ohm.

$c := 2.997924580 \cdot 10^{08} \cdot m \cdot sec^{-1}$ Velocity of light in free space.

$\Phi_{o} := 2.067834610 \cdot 10^{-15} \cdot weber$ Fluxoid Quantum.

$f_{LM} := 1.003224805 \cdot 10^{01} \cdot Hz$ Quantum electrogravitational frequency.

$t_{LM} := f_{LM}^{-1}$ Quantum electrogravitational time.

$h := 6.626075500 \cdot 10^{-34} \cdot joule \cdot sec$ Planks constant.

The electric potential at the Bohr (n1) radius is given by;

(241) $E_{n1} := \dfrac{q_{o}}{4 \cdot \pi \cdot \varepsilon_{o} \cdot r_{n1}}$ or, $E_{n1} = 27.2113960948673 \cdot volt$

And let;

(242) $\Phi_{oE} := E_{n1} \cdot \dfrac{t_{n1}}{2}$ or, $\Phi_{oE} = 2.067834615863336 \cdot 10^{-15} \cdot weber$

Also the same quantum magnetic flux is arrived at by (244) below: Let $\theta := \dfrac{\pi}{2}$

(243) Φ = B(tesla) x Area

and,

(244) $\Phi_{oM} := \left(\dfrac{\mu_{o} \cdot q_{o}}{4 \cdot \pi \cdot l_{q} \cdot r_{n1}} \cdot v_{LM} \cdot \sin(\theta) \right) \cdot \pi \cdot r_{LM} \cdot r_{n1}$

or, $\Phi_{oM} = 2.067834617261025 \cdot 10^{-15} \cdot weber$

where the ratio

$\dfrac{\Phi_{oE}}{\Phi_{oM}} = 0.999999999324081$

(Then the electric fluxoid through time and the magnetic fluxoid through time are connected to each other by the Fluxoid Quantum constant and one must necessarily generate the other.)

There is a constant radius related to the least quantum volt as derived from the Quantum Fluxoid as;

(245) $E_{LM} := i_{LM} \cdot R_Q$ or, $E_{LM} = 4.149005921102582 \cdot 10^{-14} \cdot \text{volt}$

then;

(246) $r_{qLM} := \dfrac{q_o}{4 \cdot \pi \cdot \varepsilon_o \cdot E_{LM}}$ or, $r_{qLM} = 3.470626940706936 \cdot 10^{4} \cdot \text{m}$

This radius can be equated to a wavelength by:

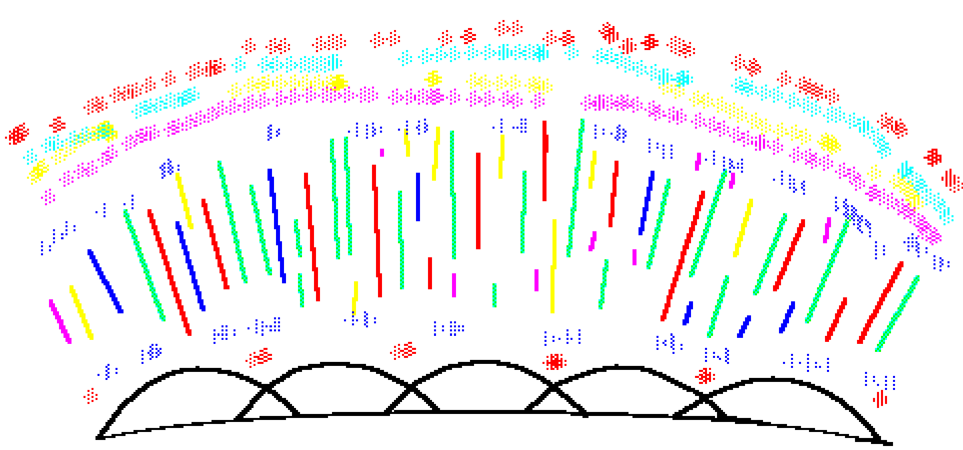
(247) $\lambda_{qLM} := 2 \cdot \pi \cdot r_{qLM}$ or, $\lambda_{qLM} = 2.180659220055146 \cdot 10^{5} \cdot \text{m}$

which of course will have an associated frequency of;

(248) $f_{qLM} := \dfrac{c}{\lambda_{qLM}}$ or, $f_{qLM} = 1.374779035820272 \cdot 10^{3} \cdot \text{Hz}$

This frequency may well be the whistler frequency associated with the low frequency waves attributed to lightening storms which could act as an amplifying stimulus. Also, there are in existence photographs of some ionized curved semicircles at the Earth's poles that were taken some time back. These may serve also to illustrate the long electrogravitational wavelength associated with equation (247) above. This is reproduced from memory below in figure #8.

Fig. #8



Standing Wave Under The Northern Lights.
(Electrogravitational Long-Wave)

Again, Figure #8 on page 135 previous is an approximate drawing of the photographed standing waves that have been observed over the North Pole at various times. It is this authors postulate that they are evidence of the electrogravitational long-wave of equation (247) above along with the well known whistlers that are associated with high energy lightening stimulus.

Since there exist magnetic domains it is not unreasonable to propose the existence of electrogravitational domains as well. The size of these domains would depend on the local transfer impedance of the surrounding medium. A good example would be the plasma at the photosphere of our Sun which is composed of a layer of granules and supergranules about 60 miles thick where also a granule is larger than the size of Texas and the underlying supergranule is twice Earth's diameter. If we let the quantum resistance portion of equation (245) on the previous page be lowered, then the result would be an increase in the wavelength of equation (247) thus enlarging the domain. This is not unreasonable since the resistance to current flow should decrease as the number of charge carriers increases per unit volume. It is then also possible to propose that different pressures in the plasma could cause chaos and thus solar flares whose domain (or loop size) would depend on the temperature and pressure in the local plasma. Even the storm cells on Earth could be attributed to the electrogravitational domain principle.

The electric and magnetic fluxoid constants being equal to the Fluxoid Quantum will allow for some interesting field consequences which will be shown by the following formulas on the next page.

First we will solve for r_d with the expression employing the Fluxoid Quantum in equation (249) next.;

(249) $$r_d := \frac{q_o}{4\cdot\pi\cdot\varepsilon_o\cdot\left(2\cdot\Phi_o\right)\cdot f_{LM}}$$ or, $$r_d = 3.470626919228714\cdot 10^{4}\cdot m$$

which is the same long-wave radius as obtained in equation (246). If we allow for f_{LM} to become a variable then r_d will change inversely as the frequency changes. This change of frequency will necessitate the changing of L_Q and C_Q at the interface so that the interaction angles ϕ' and ϕ'' may be held constant. (See the previous chapter 7, page 123.) The holding of the quantum electric fluxoid as a constant is illustrated below

Assume that r_d is increasing then; let $t_d := t_{LM}$

volts(down) x time(up)

(250) $$\Phi_{oE} := \left(\frac{q_o}{4\cdot\pi\cdot\varepsilon_o\cdot r_d}\right)\cdot\left(\frac{t_d}{2}\right)$$ or, $$\Phi_o = 2.06783461\cdot 10^{-15}\cdot weber$$

Thus the quantum electric fluxoid above and the quantum magnetic fluxoid in equation (244) are constants as is the standard Fluxoid Quantum below;

$$\Phi_o = 2.06783461\cdot 10^{-15}\cdot weber$$

The quantum magnetic fluxoid may be further developed by simplifying equation (244) so that;

$$\left(\frac{\mu_o\cdot q_o}{4\cdot\pi\cdot l_q\cdot r_{n1}}\cdot v_{LM}\cdot\sin(\theta)\right)\cdot\pi\cdot r_{LM}\cdot r_{n1}$$

simplifies to

$$\frac{1}{4}\cdot\mu_o\cdot\frac{q_o}{l_q}\cdot v_{LM}\cdot\sin(\theta)\cdot r_{LM}$$

where now;

(251) $$\Phi_{oM} := \frac{1}{4} \cdot \mu_o \cdot \frac{q_o}{l_q} \cdot v_{LM} \cdot \sin(\theta) \cdot r_{LM}$$

or; $$\Phi_{oM} = 2.067834617261025 \cdot 10^{-15} \cdot \text{weber}$$

Note that the expression for the the quantum magnetic fluxoid above in equation (251) is obtained from constants only. No variables are involved. (This holds the parameters v_{LM} and r_{LM} constant at the point of interaction.)

It is of interest that the Fluxoid Quantum is much like the Plank constant (h) wherein Heisenbergs two most famous expressions involve the uncertainty principle such that the uncertainty in particle momentum times the uncertainty in its position will be equal to Planks constant h and also the uncertainty of the energy of a particle times the uncertainty in the time of that particle also is equal to Planks constant. The Fluxoid Quantum (and thus the quantum electric and magnetic fluxoid developed in this paper above) have a similar form wherein the variable volts times the variable time equals the quantum electric fluxoid and the variable flux density (B_Q) times the variable area equals the quantum magnetic fluxoid and both of these are equal to the standard Fluxoid Quantum. It is of further interest that the Fluxoid Quantum may be derived directly in terms of Planks constant and the basic electron charge as in equation (252) below.

(252) $$\Phi'_o := \frac{h}{(2) \cdot q_o} \qquad \text{or;} \quad \Phi'_o = 2.067834619779572 \cdot 10^{-15} \cdot \text{weber}$$

and then the ratio is; $$\frac{\Phi'_o}{\Phi_o} = 1.000000004729378$$

Note that the equation in (252) previous requires that two basic electron charges must be used which implies that electrons naturally exist in pairs when the Fluxoid Quantum is involved and this may be applied directly to all of the electrogravitational equations as well as the case for the mechanism of superconductivity. This may also state the case for the natural generation of electron pairs by a free field as well.

The quantum electric fluxoid being held constant allows for a variable distance from the interface to a target mass to be achieved by causing an increase in t_d through a relativistic effect. The charging sequence of dots on the surface of the electrogravitational interface can be charged at a surface velocity approaching the velocity of light. The time displacement can be likened to a method of producing time dilation as in the relativistic time dilation in Einstein's special theory of relativity and the distance projection would occur as for the case of the mu-meson that is traveling at near light speeds wherein the decay time is lengthened relativistically which causes the mu-meson to travel much farther through the atmosphere than would otherwise be the case before it decays. (This gives the appearance that the mu-meson is traveling faster than the velocity of light if the relativistic time dilation is not taken into account.)

This is demonstrated by equation (250) where by forcing the volts down will require r_d to increase and thereby also require t_d to increase. This relativistic type of effect can therefore be mimicked by the sudden change of t_d to a larger t'_d value.

This is then simply a change in the frequency of the interaction field of the electrogravitational control surface from a higher to a lower value. Then the Lorentz transform involving the relativistic increase of time t'_d would invoke the relationship of $d'' = c \times t'_d$. This would force r_d to increase in proportion to the frequency decrease along the vectored phase angle. (See equation (250) of this paper.) This is predicated upon the quantum fluxoids F_o, F_{oE}, and F_{oM} all being constants even in the relativistic case.

There also exists the possibility of the virtual relativistic action being forced into imaginary space where if the linear velocity of the dot charging sequence be allowed to exceed the velocity of light then the craft behind that interface would no longer be in our normal space but would be outside the world-line light cone in a region defined as present but elsewhere, a region that may be connected to all points in our space at once. The entire craft would then become invisible to our space.

Related to this chapter and included with this book is a stand alone executable file named SPIRALLY.EXE that dynamically illustrates the dot charging sequence action that is the same as described in the previous chapter 7 titled "Electrogravitational Craft Propulsion and Control". The sequence of spiraling dots made by electrons striking the phosphor surface of a CRT contain the basic frequency independent interaction angles ϕ' and ϕ'' which are developed on page (123) of that paper. A suitable detector mounted in front of that CRT may be able to pick out the frequencies connected with that electrogravitational action spiral.

This file may be run from the DOS prompt or from the file manager in windows. It should again be noted that a video screen is much like the dot charging surface described in the previous text and thus under the right circumstances could simulate that surface quite closely which makes experimentation easily available to all concerned. The program may be slow on some older machines but the program could be vastly speeded up by writing the program in machine language. The program as it is was written under Microsoft Basic's PD7 development system and then was compiled into an EXE self executable file by this author.

When the electrogravitational interface frequency is changed to effect a change in r'_d there exists the requirement of holding either one or both of the interaction phase angles ϕ' and ϕ'' constant or controllable to a required phase for the proper control of the spacecraft. Therefore the inductance L_Q and the capacitance C_Q should be variable and controllable. Or,

constant $$X_{LQ} = 2\cdot\pi\cdot\Delta f_Q\cdot\Delta L_Q$$

and,

constant $$X_{CQ} = \frac{1}{2\cdot\pi\cdot\Delta f_Q\cdot\Delta C_Q}$$

The above equations can be expressed as numerical values by setting Df_Q to be equal to f_{LM}, DL_Q equal to L_Q, and DC_Q equal to C_Q. Also the net impedance constant may be solved for as follows:

let; $L_Q := 2.572983215822382\cdot 10^{03}\cdot \text{henry}$ and $C_Q := 3.86159328077508\cdot 10^{-06}\cdot \text{farad}$

then;

(253) $$X_{LQ} := 2\cdot\pi\cdot f_{LM}\cdot L_Q \qquad \text{or,} \qquad X_{LQ} = 1.621866424513917\cdot 10^{5}\cdot \text{ohm}$$
constant

(254) $$X_{CQ} := \frac{1}{2\cdot\pi\cdot f_{LM}\cdot C_Q} \qquad \text{or,} \qquad X_{CQ} = 4.108235582859004\cdot 10^{3}\cdot \text{ohm}$$
constant

(255) $$Z_{total} := \sqrt{R_Q^{\,2} + \left(X_{LQ} - X_{CQ}\right)^2}$$

or; $$Z_{total} = 1.601720439122782\cdot 10^{5}\cdot \text{ohm}$$
constant

Thus while the frequency is being changed to affect a change in the spacecraft's coordinates, the inductance and capacitance must change to keep control over the interface impedance and thus the interaction phase angle at the spacecraft's electrogravitational interface.

The quantum inductance L_Q may be derived directly from the relationship that states that a change in field flux divided by a change in initiating current defines the related inductance. This is shown below for the quantum electrogravitational parameters as previously derived.

Again, $t_d = t_{LM}$ and $i_{LM} = q_o / t_{LM}$.

(256) $$L_{QE} := \frac{\left(\frac{2\cdot q_o}{4\cdot\pi\cdot\varepsilon_o\cdot r_d}\right)\cdot\left(\frac{t_d}{2}\right)}{i_{LM}}$$ or, $$L_{QE} = 2.572983206864028\cdot10^{3}\cdot\text{henry}$$

If we now let the least quantum electrogravitational distance r_{LM} be substituted for r_d and then solve for t_d, the result is interesting when compared to the related frequencies f_{M1rn1} and f_{Crn1} in the previous chapter titled "Electrogravitational Dynamics", on pages 67 and 68.

or,

(257) $$L_{QE} := \frac{t_d\cdot t_{LM}}{4\cdot\pi\cdot\varepsilon_o\cdot r_d}$$ or, $$L_{QE} = 2.572983206120198\cdot10^{3}\cdot\text{henry}$$

which is the electrogravitational quantum inductance as previously derived in previous papers by this author.

Then solving for t_d as t_{new} when $r_d = r_{LM}$ in equation (257) previous;

(258) $$t_{new} := \frac{L_{QE}\cdot4\cdot\pi\cdot\varepsilon_o\cdot r_{LM}}{t_{LM}}$$ or, $$t_{new} = 3.892228761591022\cdot10^{-9}\cdot\text{sec}$$

and $$f_{new} := \frac{1}{t_{new}}$$ or, $$f_{new} = 2.569222060810298\cdot10^{8}\cdot\text{Hz}$$

This frequency is extremely close to the frequencies f_{M1rn1} and f_{Crn1} mentioned above, where also;

$$f_{M1rn1} := 2.569221969458471 \cdot 10^{08} \cdot Hz$$

$$f_{C1rn1} := 2.569222069780951 \cdot 10^{08} \cdot Hz$$

or, $$f_{new} - f_{M1rn1} = 9.135182738304138 \cdot Hz$$

and, $$f_{C1rn1} - f_{new} = 0.897065281867981 \cdot Hz$$

The frequency (f_{new}) is likely to be a universal quantum frequency that is to be associated with the electrogravitational field action in general. It therefore may be expected to be connected with all manner of energy quanta and detectable by various experimental methods. Associated with this frequency should be the quantum electrogravitation frequency f_{LM} as perhaps a sideband mix connected to f_{new}. For example, an experiment utilizing a phase-lock loop centered on random energy-related frequencies may detect one or the other or both at the same time.