Our Open and Non-Local Infinite Energy Universe

-by-

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Abstract:

Energy of a 'system' is often viewed as being a constant which changes form but cannot be created or destroyed. This is a natural assumption just as people once assumed the Earth was flat. This conclusion was likely arrived at by simple observation in a local sense. In the same vein, the notion of a closed universe likely sprang from the limits of human observation.

Our universe came into existence from an energy source somewhere other than what we call observable space. Thus, our universe is not a closed 'system'. The important concept to be drawn from this is that a non-local energy source created the universe. Further, it is connected to it in a very active way. It is the purpose of this paper to present the mechanics of non-local energy induction by the monatomic Hydrogen atom. Thus, even atoms and their basic particles are also connected to non-local energy space. From this energy induction, a proton pressure wave is formed which is the reason the electron does not fall into the proton. This results in a shell which truly must be a shell of uncertainty as to position and momentum. This further removes the need for the concept of an inertial force to balance the electric force field of the coulomb attraction between the electron and the proton. Finally, the simple explanation offered by contemporary science of standing waves never did properly explain the mechanics of force cancellation.

Hyperfine energy related to the 21 cm radiation of hydrogen is introduced as a fundamental force occurring in a volume smaller than the natural electromagnetic wavelength which compresses the energy. The result is an upconversion of quantum frequency. This is analogous to a weighted impulse function. The high energy density related to compressing quantum energy in a volume smaller than it would normally reside in for the usual electromagnetic wavelength causes an increase in the effective quantum frequency in the very near field.

Below are stated the required S.I. constants for the purpose of calculation.

$c := 2.997924580 \cdot 10^{08} \cdot \frac{m}{sec}$	Speed of light in free space
$m_e := 9.109389700 \cdot 10^{-31} \cdot kg$	Rest mass of electron
$h := 6.626075500 \cdot 10^{-34} \cdot joule \cdot sec$	Plank's constant
$\alpha := 7.297353080 \cdot 10^{-03}$	Fine Structure constant
$R_{n1} := 5.291772490 \cdot 10^{-11} \cdot m$	Bohr Radius of H1 atom at n1
$\varepsilon_o := 8.854187817 \cdot 10^{-12} \cdot \frac{farad}{m}$	Permittivity of free space
$q_o := 1.602177330 \cdot 10^{-19} \cdot coul$	Charge of electron or proton
$f_{main} := 9.523589524 \cdot 10^{13} \cdot Hz$	Calculated electrogravitational frequency[2]

The *mathodology* in reference **5** is repeated below for a dynamic analysis of the pressure wave mechanics as applied to the H1 atom shells N1 through N5.

First, the hyperfine H1 radiation is stated as: $f_{H1} := 1.420405751 \cdot 10^{9} \cdot Hz$

Then the pressure at the n1 energy level is calculated by the following equation where we do not assume the surface area of a sphere, ($A = 4\pi r^{2}$), but only the area of a plane surface defined by the square of the Bohr n1 radius.

115) $$Press_{n1} := \frac{h \cdot f_{H1}^{2}}{\left(R_{n1}^{2}\right) \cdot c} \qquad Press_{n1} = 1.5924220874 \times 10^{-3}\,Pa$$ 1)

where, $1 \cdot \frac{newton}{m^{2}} = 1\,Pa$ The Pa unit is the Pascal in newton/meter^2 units.

The pressure above is throughout the n1 surface defined by R_{n1} squared. Therefore, the actual force on the much smaller Compton electron radius squared can be found by multiplying the above pressure by the square of the product of the fine structure constant and the unit meter.

116) Then: $F_{en1} := Press_{n1} \cdot (\alpha \cdot m)^{2}$ or, $F_{en1} = 8.4798644992 \times 10^{-8}\,newton$ 2)

Next we calculate the electric field force due to the interaction of the field of the electron with the field of the proton at the n1 Bohr radius.

117) $$F_{En1} := \frac{q_{o}^{2}}{4 \cdot \pi \cdot \varepsilon_{o} \cdot R_{n1}^{2}} \qquad F_{En1} = 8.238729466 \times 10^{-8}\,newton$$ 3)

The pressure on the electron due to the energy of the radiating hyperfine electromagnetic frequency is a little more than necessary to counterbalance the coulomb electric field force. This is an alternative explanation as to why the electron cannot be pulled into the proton by the force of the electrostatic field and further, it establishes why it is that the first shell is located at the n1 radius. It is located where the outward electromagnetic wave from the proton effectively balances the inward electric field force.

Therefore, the "orbital" picture of the electron totally gives way to the probability wave of where the electron is in the energy shell which agrees with the expected quantum result. The electron could even be sitting still and yet not be able to go any further towards the proton than allowed by the force balance point which holds the electron in the bottom of the energy valley very close to zero joules. It is thus desirable to consider the pressure wave from the proton to be energy that cancels the positive electric field energy of the electron with the proton pressure wave's negative energy. Or, put another way, the proton's negative field energy cancels the electrons positive field energy and the proton pressure wave cancels the electrostatic force field between the proton and the electron with some energy left over which is the Hyperfine and CBR radiation.

The difference in the (-) energy pressure-wave force and the (+) energy electric field force at the Bohr radius on the electron divided into the energy of the n1 shell derives a distance ΔR_{n1} as:

118) $$\Delta R_{n1} := \frac{m_{e} \cdot (c \cdot \alpha)^{2}}{2 \cdot \left(F_{en1} - F_{En1}\right)} \qquad \Delta R_{n1} = 9.0400555792 \times 10^{-10}\,m \qquad R'_{n1} := \Delta R_{n1}$$ 4)

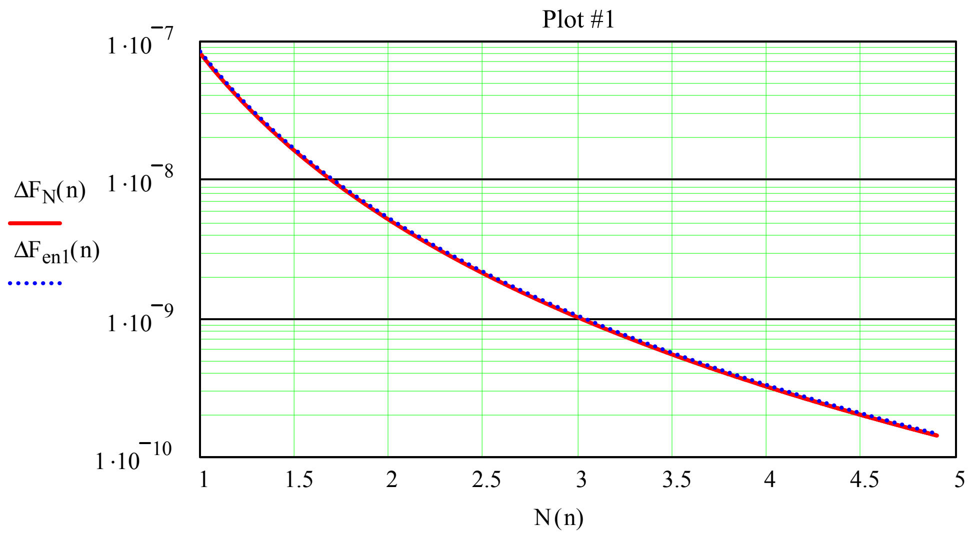
119) $$\frac{\Delta R_{n1}}{2 \cdot \pi \cdot R_{n1}} = 2.7188801748 \qquad \text{where,} \qquad \frac{\Delta R_{n1}}{2 \cdot \pi \cdot R_{n1} \cdot (e)} = 1.0002201193$$ 5)

And where also: $e = 2.7182818285$ **which is the natural number e.**

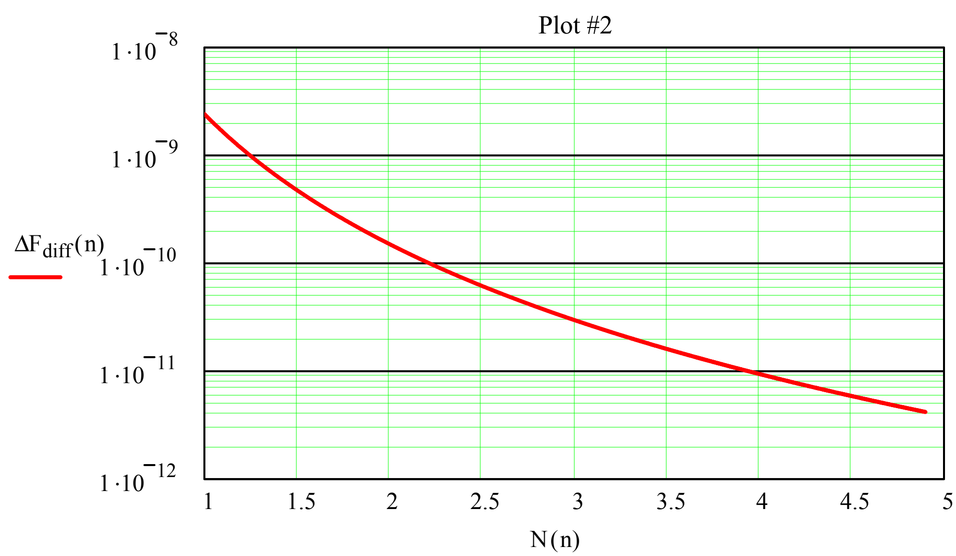
Notice that the pressure wave is based on the frequency of the hyperfine radiation of Hydrogen. Then all atoms must contain this frequency, but it is the most simple atom, the H1 atom, that is most likely the one to radiate at the f_{H1} frequency since it is the atom which has the least amount of charge shielding. Below is developed **force** plots that illustrate the relative difference between the pressure wave and the negative coulomb force of the H1 atom. The general case including atomic charge Z for all atoms is possible.

Let: $n := 1, 1.01 .. 24$ $\quad N(n) := \sqrt{n}$ $\quad Z := 1$ $\quad \Delta R(n) := \frac{N(n)^2}{Z} \cdot R_{n1}$ 6

$$\Delta Press_{n1}(n) := \frac{Z \cdot h \cdot f_{H1}{}^2}{c \cdot \Delta R(n)^2} \qquad \Delta F_{en1}(n) := \Delta Press_{n1}(n) \cdot (\alpha \cdot m)^2 \qquad \Delta F_N(n) := \frac{Z \cdot q_o{}^2}{4 \cdot \pi \cdot \varepsilon_o \cdot (\Delta R(n))^2} \qquad 7$$



It appears that the two plots above almost coincide. However: $\Delta F_{diff}(n) := (\Delta F_{en1}(n) - \Delta F_N(n))$ 8)



It is immediately apparent from the difference plot above that $\Delta F_{en1}(n)$ and $\Delta F_N(n)$ are not equal.

The Δforce times Δdistance solution for ***dynamic energy*** and the related dynamic quantum frequencies is solved for in the below plot as a function of $N_{(n)}$.

Let the atomic nuclear charge be set: $Z := 1$ Then $\Delta R_{n1}(n)$ is defined as shown below: 9)

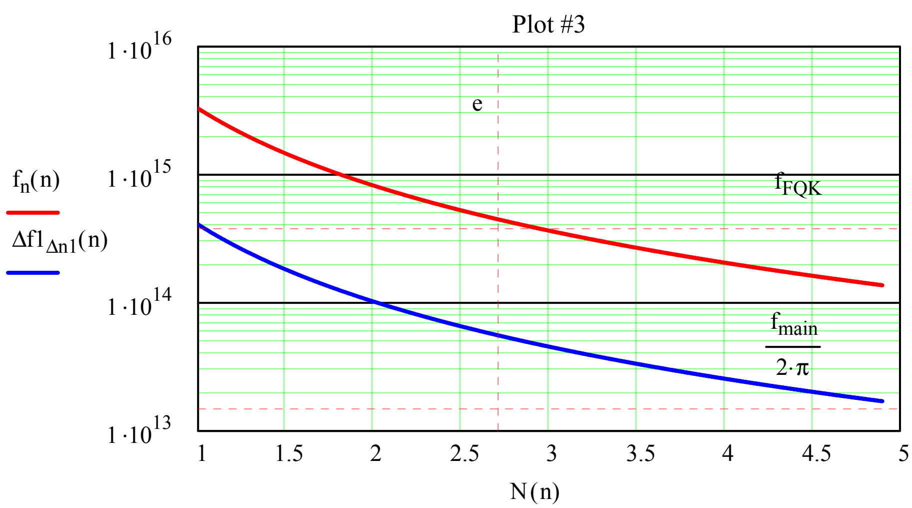
(Kinetic Energy)

$$\Delta R_{n1}(n) := \frac{N(n)^2 \cdot (R'_{n1} - R_{n1})}{Z} \qquad F'_N(n) := \frac{(q_o)^2 \cdot Z}{4 \cdot \pi \cdot \varepsilon_o \cdot (\Delta R_{n1}(n))^2} \qquad Ek_n(n) := \left[\frac{Z \cdot {q_o}^2}{8 \cdot \pi \cdot \varepsilon_o \cdot \left(R_{n1} \cdot N(n)^2\right)}\right]$$

$$\Delta E_{n1}(n) := F'_N(n) \cdot \Delta R_{n1}(n) \qquad \Delta f1_{\Delta n1}(n) := \frac{\Delta E_{n1}(n)}{h} \qquad f_n(n) := \frac{Ek_n(n)}{h} \qquad 10)$$

where, $\Delta f1_{\Delta n1}(1) = 4.09102194 \times 10^{14}\,\mathrm{Hz}$ and $\Delta f1_{\Delta n1}(4) = 1.022755485 \times 10^{14}\,\mathrm{Hz}$ 11)

$f_{FQK} := 4 \cdot f_{main}$ or, $f_{FQK} = 3.8094358096 \times 10^{14}\,\mathrm{Hz}$ ($f_{main} = 9.523589524 \times 10^{13}\,\mathrm{Hz}$) 12)



Where, $\frac{f_{main}}{2 \cdot \pi} = 1.5157263487 \times 10^{13}\,\mathrm{Hz}$ and $\frac{f_{FQK}}{8 \cdot \pi} = 1.5157263487 \times 10^{13}\,\mathrm{Hz}$ 13)

The blue (bottom) plot falls between the high and low frequencies related to reference **5** in my previous work. As such, it may bear heavily on the first choice for investigation of the proper range of energy release. (This is for $R'_{n1} = R_{n1}$ times $2\pi e$.)

Further, the energy space input frequency f_{FQK} is very close to the N1 quantum energy related frequency at $\Delta R_{n1}(1)$. Further, the shell numbers between f_{FQK} and $f_{main}/2\pi$ are equal to 5 which corresponds to the five H1 shell series as: Lyman, Balmer, Paschen, Brackett and finally Pfund. The above curves plot the values between the whole number integers of the shell numbers but in reality, the values at the whole number integers are the allowed state energies.

The energy difference between the energy space f_{FQK} input at N = 1 and $f_{diff}/2\pi$ all times 2 will yield the lower limit frequency defined in a previous paper[2] as intimately related to the lower limit of the elecrogravitational vector magnetic potential frequency of interaction.

Please note that reference[5], pp 30-33 inclusive, presented a proton pressure wave concept that balances the field pressure on the electron against the coulombic force of attraction and thus removes the necessity of the electron having a so-called orbital velocity. It can however have an equivalent kinetic energy but in actuality, it is actually in a "cloud" around the proton nucleus and it still has its associated magnetic and spin vectors since it is still a standing wave of probability. Thus the idea of a fictitious rotational inertial force balancing the centripetal coulombic force of attraction is no longer needed.

The pressure equations above are repeated below and are expanded on.

115) $$\mathrm{Press}_{n1} := \frac{h \cdot f_{H1}{}^2}{\left(R_{n1}{}^2\right) \cdot c}$$ 116) $$F_{en1} := \mathrm{Press}_{n1} \cdot (\alpha \cdot m)^2$$ This adjusts the pressure related to $R_{n1}{}^2$ to the $R_e{}^2$ of the target electron. 14)

The $(\alpha \cdot m)^2$ can be thought of as an aperture for the Poynting vector power and pressure of:

$$\frac{h \cdot f_{H1}{}^2}{\left(R_{n1}{}^2\right)} = 4.7739613175 \times 10^5 \, \frac{\mathrm{watt}}{m^2} \quad \text{and:} \quad \frac{h \cdot f_{H1}{}^2}{\left(R_{n1}{}^2\right) \cdot c} = 1.5924220874 \times 10^{-3} \, \frac{\mathrm{newton}}{m^2} \qquad 15)$$

By aperture, I mean a reduction in area of the wavefront area so that only a certain energy can be gated through by the smaller size of the lens, or *aperture to fit the Compton radius squared of the electron.*

Then the total expression for arriving at the <u>N1</u> f_{H1} pressure wave related *force* on the electron is:

$$\frac{h \cdot f_{H1}{}^2}{\left(R_{n1}{}^2\right) \cdot c} \cdot \left(\alpha^2 \cdot 1 \cdot m^2\right) = 8.4798644992 \times 10^{-8} \, \mathrm{newton} \quad \text{Also:} \quad F = \frac{m \cdot v^2}{r} = m \cdot a \qquad 16)$$

There is another subtlety to the above which at first may escape our attention. We have arrived at a force which no longer is expressed as newtons per area but only in newtons, a pure force which can engender an action and therefore a reaction. The implication to me is that the outgoing pressure wave is converted by the aperture, which is the electron radius squared, into circumferential energy having an inertial force such as exhibited by a mass in orbital motion. That is, the pressure wave vector of motion is converted to an effective action force that is 90 degrees to the direction of motion of the circumferential energy.

The frequency corresponding to the energy difference of the N1 pressure wave and the N1 Shell energy is:

$$\Delta f_{DIFF} := \left[\left[\frac{h \cdot f_{H1}{}^2}{R_{n1} \cdot c} \cdot \left(\alpha^2 \cdot 1 \cdot m^2\right)\right] - \left[\frac{(q_o)^2}{4 \cdot \pi \cdot \varepsilon_o \cdot R_{n1}}\right]\right] \cdot \frac{1}{h} \qquad 17)$$

$$\Delta f_{DIFF} = 1.9257730081 \times 10^{14} \, \mathrm{Hz}$$

NOTE: $f_{FQK} \cdot \left(2 \cdot \Delta f_{DIFF}\right)^{-1} = 0.9890666744$ **!!!** $2 * \Delta f_{DIFF}$ very close to f_{FQK} 18)

Where again: $f_{FQK} = 3.8094358096 \times 10^{14} \, \mathrm{Hz}$

The above force constant frequency ties together all local space systems through non-local energy space and therefore is the electrogravitational gate or mediator of the gravitational force.

The mv^2/r rotational force is called a fictitious force by contemporary physics since the so-called centrifugal force is defined as not existing. (The reasoning for this is obscure to say the least. This by reason that as anyone can attest, swinging a weight on a string about one's body will prove the fact that there does indeed exist a force that pulls against the string away from the center of the circle of rotation.) Thus, the physics community has renamed the mv^2/r outwards directed force as being an inertial force. (Outwards as directed away from the center of rotation of a mass.) Whatever the force is called, it is an outwards directed force and so for the sake of argument reduction, it will be called an inertial force in this paper.

Based on the above mechanics of inertial force generated by a critically scaled down wavefront opening for an electromagnetic wave, increasing the number of apertures above a radiating surface may engender suitable lift. Such a surface might be round overall and if it had the geometry of a UFO, or flying saucer, it would be a very suitable geometry for the task of creating an offset force in any medium including space. The *critical* size is the fine structure constant squared times the wavelength of the frequency of the electromagnetic wave. Perhaps a crystalline lattice may be employed and thus the shell of the pressure wave driven craft could be grown as a monolithic structure. Such a surface could also be used as an energy source by tuning utilizing a similar surface to gather the radiated pressure wave energy.

Since it requires energy to generate an electromagnetic wave, it is natural to use the H1 pressure wave energy coming from many protons as presented above. That energy flows from energy space, which is a limitless source of energy, being the same energy source that created the Big Bang. This would also explain where all of the negative energy in the universe is coming from since I have previously defined the H1 proton pressure wave as being negative energy in the field but causing a positive pressure on the electron during interface.

It is of interest that the electromagnetic wavelength of f_{H1} is much greater in free space than in the confines of the R_{n1} distance of the H1 atom. Thus the **power density** is much greater in the R_{n1} distance for the f_{H1} frequency than for the free space medium. This is possible since the f_{H1} energy is coming from what I have previously termed energy space.

$$E_{EnergySpace} := \frac{h \cdot f_{H1}^{\;2}}{(R_{n1}) \cdot c} \cdot \left(\alpha^2 \cdot 1 \cdot m^2\right) \qquad E_{EnergySpace} = 4.4873513676 \times 10^{-18}\,\text{joule} \qquad 19)$$

$$E_{FreeSpace} := h \cdot f_{H1} \qquad E_{FreeSpace} = 9.4117157468 \times 10^{-25}\,\text{joule} \qquad 20)$$

It is easily seen that a form of energy compression in the N1 shell radius raises the effective quantum energy considerably due to the reduced and fixed volume in the N1 shell allowed for the f_{H1} energy. Such a condition is conducive to generating a higher quantum frequency than the beginning frequency. This is demonstrated by the below equation:

$$\frac{f_{H1}^{\;2}}{(R_{n1}) \cdot c} \cdot \left(\alpha^2 \cdot 1 \cdot m^2\right) = 6.7722611485 \times 10^{15}\,\text{Hz} \quad \text{where,} \quad f_{H1} = 1.420405751 \times 10^{9}\,\text{Hz} \qquad 21)$$

That is an impressive gain of frequency related quantum energy. The N1 energy gain is expressed as:

$$N1gain := \frac{f_{H1}}{(R_{n1}) \cdot c} \cdot \left(\alpha^2 \cdot 1 \cdot m^2\right) \qquad N1gain = 4.7678356299 \times 10^{6} \qquad 22)$$

Again, twice the difference of the N1 energy related quantum frequency and the usual Coulombic energy related quantum frequency yields a frequency very close to the f_{FQK} energy space connector frequency.

$$\left[\frac{h \cdot f_{H1}^{\;2}}{R_{n1} \cdot c} \cdot \left(\alpha^2 \cdot 1 \cdot m^2\right) - \frac{q_o^{\;2}}{4 \cdot \pi \cdot \varepsilon_o \cdot R_{n1}}\right] \cdot \frac{2}{h} = 3.8515460161 \times 10^{14}\,\text{Hz} \qquad f_{FQK} = 3.8094358096 \times 10^{14}\,\text{Hz} \qquad 23)$$

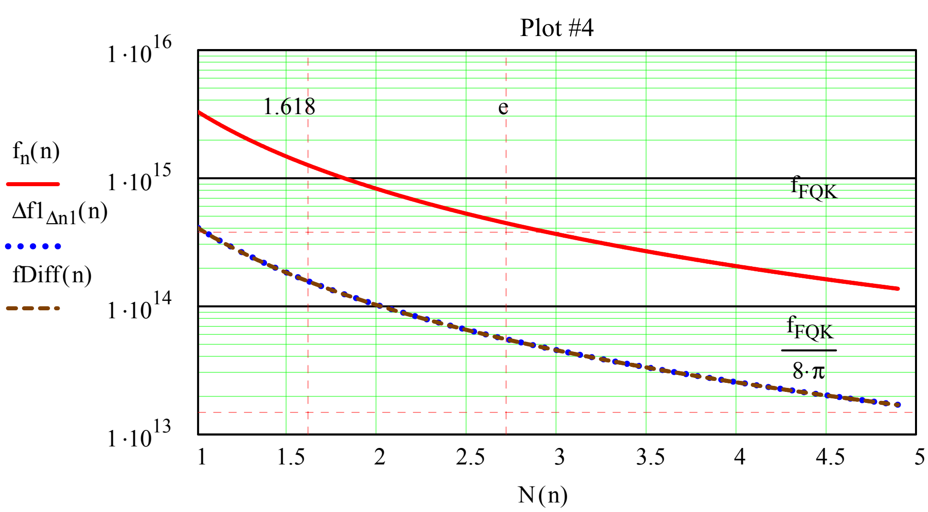
In the two integrals below, it is seen that direction of integration will determine the sign of the energy.

$$\Delta E1_N := \int_{N(1)^2 \cdot R_{n1}}^{N(1)^2 \cdot R'_{n1}} \frac{Z^2 \cdot h \cdot f_{H1}{}^2}{(R_{n1})^2 \cdot c \cdot N(1)^2} \cdot \left(\alpha^2 \cdot N(1)^2 \cdot m^2\right) dR_{n1} \qquad \frac{\Delta E1_N}{h} = 6.375834678 \times 10^{15}\,\mathrm{Hz} \qquad 24)$$

$$\Delta E2_N := \int_{N(1)^2 \cdot R'_{n1}}^{N(1)^2 \cdot R_{n1}} \frac{Z^2 \cdot h \cdot f_{H1}{}^2}{(R_{n1})^2 \cdot c \cdot N(1)^2} \cdot \left(\alpha^2 \cdot N(1)^2 \cdot m^2\right) dR_{n1} \qquad \frac{\Delta E2_N}{h} = -6.375834678 \times 10^{15}\,\mathrm{Hz} \qquad 25)$$

The below integral further provides a solution and a plot involving the shell as a variable.

$$fDiff(n) := \left(\frac{2.0}{h}\right) \cdot \left[\frac{(Z \cdot q_o)^2}{4 \cdot \pi \cdot \varepsilon_o \cdot R_{n1} \cdot N(n)^2} - \int_{N(n)^2 \cdot R_{n1}}^{N(n)^2 \cdot R'_{n1}} \frac{Z^2 \cdot h \cdot f_{H1}{}^2}{(R_{n1})^2 \cdot c \cdot N(n)^2} \cdot \left(\alpha^2 \cdot N(n)^2 \cdot m^2\right) dR_{n1}\right] \qquad 26)$$



Increasing values of nuclear charge Z will allow for a broad range of frequencies related to the small beginning difference seen between the $\Delta f1_{\Delta n1}(n)$ and the fDiff(n) plot above. An almagamation of elements may provide just the right frequency separation to control f_{H1} energy flux input as well as the 'gate' for the electrogravitational force related to f_{FQK} above.

The following analysis solves for the quantum energy and its equivalent frequency pertaining to the dissociation of 1 molecule of hydrogen H2 into two atoms of H1.[1]

First, the appropriate constants are stated as:

Relative atomic weight of Hydrogen: $H1_w := 1.00794$ and $AMU := 1.660540200 \cdot 10^{-27} \cdot kg$ 27)

Avogadro's number: $A_{ve} := 6.02213700 \cdot 10^{23}$

28)

Then the total weight of 1 mole of atomic H2 , (H1 pairs) is:

$H2_{tot} := A_{ve} \cdot 2 \cdot H1_w \cdot AMU$ where, $H2_{tot} = 2.0158801166 \times 10^{-3}\ kg$ 29)

Reference #1 cal/gram - mole dissociation energy is: $E_{cal\_gram} := 103 \cdot \dfrac{cal}{gm}$ 30)

The dissociation energy in joules for 1 mole of H2 as per reference 1 is calculated as:

$E_{dismole} := H2_{tot} \cdot (E_{cal\_gram})$ $E_{dismole} = 869.3289478346\ joule$ per mole of hydrogen pairs. 31)

Then the dissociation energy for *1 molecule* of H2 into 2 H1 atoms is found as:

$E_{disatom} := \dfrac{E_{dismole}}{A_{ve}}$ $E_{disatom} = 1.4435555814 \times 10^{-21}\ joule$ 32)

Further, Plank's constant: $h := 6.626075500 \cdot 10^{-34} \cdot joule \cdot sec$

Then the quantum frequency related to the energy quanta of dissociation above is:

$f_{disatom} := \dfrac{E_{disatom}}{h}$ $f_{disatom} = 2.1785981482 \times 10^{12}\ Hz$ 33)

The above frequency of quanta could be used to force the dissociation of H2 into two H1 atoms.

Main quantum force field electrogravitational frequency[2]: $f_{main} := 9.523589524 \cdot 10^{13} \cdot Hz$ 34)

Hyperfine constant: $\alpha := 7.297353080 \cdot 10^{-03}$

where, $\dfrac{f_{main}}{f_{disatom}} \cdot \alpha \cdot \pi = 1.0021639383$ 35)

The above frequency is derived from the universal force constant and the **A** vector at the n1 level of the Bohr H1 atom. It is also based on the square root of the Golden ratio as shown in reference #2 equations.

The energy in the unshielded H1 atom's field may build to a considerable field energy since the field is a dynamic that flows from what I call energy space.[3] This must occur as a steady increase without acceleration, since acceleration of charge would cause the field to form a photon and be radiated. Rather, if not terminated with a conjugate receptor atom, the energy builds in a steady fashion over time. The above reference #1 book states that the available energy on recombination of two atoms of otherwise free H1 atoms releases the built-up field as energy equal to 109,000 cal/gram mole.

The energy released on the simultaneous recombination of 1 mole of H2 formed from H1 atoms would be equal to the large energy release shown below. First, the recombination energy from ref. #1 is stated as:

$E_{fld} := \dfrac{109000 \cdot cal}{gm}$ Therefore; $E_{fusmole} := H2_{tot} \cdot E_{fld}$ or, $E_{fusmole} = 9.1996946907 \times 10^{5}\ joule$ 36)

The quantum energy released per recombination of 2 atoms of H1 is:

$$E_{fusatom} := \frac{E_{fusmole}}{A_{ve}} \qquad E_{fusatom} = 1.5276461978 \times 10^{-18}\,\text{joule} \qquad 37)$$

The photon frequency of fusion of two H1 atoms into 1 H2 atom is:

$$f_{fusatom} := \frac{E_{fusatom}}{h} \qquad f_{fusatom} = 2.3055067782 \times 10^{15}\,\text{Hz} \quad \text{(Ultraviolet region.)} \qquad 38)$$

Velocity of light: $c := 2.997924580 \cdot 10^{08} \cdot \frac{m}{sec}$ Electron rest mass: $m_e := 9.109389700 \cdot 10^{-31} \cdot kg$

The frequency related to the H1 atom n1 shell is:

$$f_{n1} := \frac{m_e \cdot \alpha^2 \cdot c^2}{h} \quad \text{or,} \quad f_{n1} = 6.5796838616 \times 10^{15}\,\text{Hz} \qquad 39)$$

The ratio of the n1 shell frequency to the H1 fusion is: $\frac{f_{n1}}{f_{fusatom}} = 2.8538991617$ 40)

where also, $\frac{f_{fusatom}}{f_{disatom}} = 1.0582524272 \times 10^3$ (The above approximates e.) 41)

Let Boltzman's constant be stated: $B_k := 1.380658 \cdot 10^{-23} \cdot \frac{joule}{K}$

The temperature in Kelvins of the dissociation energy and the gross output energy of the process above is:

$$T_{disatom} := \frac{E_{disatom}}{3 \cdot \pi \cdot B_k} \cdot 2 \qquad T_{disatom} = 22.1873924277\,\text{K} \qquad 42)$$

$$T_{fusatom} := \frac{E_{fusatom}}{3 \cdot \pi \cdot B_k} \cdot 2 \qquad T_{fusatom} = 2.347986189 \times 10^4\,\text{K} \qquad 43)$$

Note: The conventional formula does not include the π constant. The π constant was necessary so that the temperature agrees with the Exploratorium's energy/temperature chart.[4] (E = 3/2 kT is conventional.)

For most cases, the single hydrogen atoms would probably not be able to build to the maximum energy as shown above but to some average energy still much greater than the dissociation energy. The key to maximum energy output is to keep the single H1 atoms apart by a suitable distance before recombining into a molecule of H2.

The above analysis of Hydrogen in the gaseous state can be extended to hydrogen bound with oxygen as in the ordinary water molecule. I have often peered into a pan of water as it began to reach a boiling point and wondered why the bubbles began to form at all. Since tap water does have some dissolved air, it can be argued that the bubbles are dissolved air being brought together into a single bubble, ad infinitum. However, for the more practical case, we soon run out of so-called dissolved air in the water but the bubbles still become larger and more frequent as the water continues to heat up to the fully boiling state. Thereafter, the water will continue to create large bubbles in a vigorous manner until we boil the pan dry.

Therefore, the bubbles may not be formed by dissolved air, in the main, but by what I have termed in previous work, a pressure wave[5] that is associated with the outwards expanding field of the H1 atom's proton. Even steam may be viewed as small bubbles that may contain a single proton which is pushing outwards with its associated negative energy and positive pressure wave. To that end, the following analysis is launched.

The weight of 1 mole of water is found by the following procedure:

First, the appropriate constants are stated again as:

Relative atomic weight of Hydrogen: $H1_w := 1.00794$ and one $AMU := 1.660540200 \cdot 10^{-27} \cdot kg$ 44)

Further, the relative atomic weight of oxygen is: $O1_w := 15.9994$ 45)

Avogadro's number: $A_{ve} := 6.02213700 \cdot 10^{23}$

Then the total weight of 1 mole of atomic H2O , (H1 pairs+O) is:

$H2O_{totw} := A_{ve} \cdot (2 \cdot H1_w + O1_w) \cdot AMU$ thus, $H2O_{totw} = 18.015281042\ gm$ per mole of H_2O. 46)

Next, the specific heat capacity of water is stated: $E_{H2Osp} := 4186 \cdot \frac{joule}{kg}$ per degree centigrade. 47)

Then the energy to raise 1 mole of water 1 degree centigrade is derived as:

$E_{H2Omole} := H2O_{totw} \cdot E_{H2Osp}$ or, $E_{H2Omole} = 75.4119664419\ joule$ 48)

The energy required to heat one molecule 1 degree centigrade is:

$E_{H2Omolecule} := \frac{E_{H2Omole}}{A_{ve}}$ or, $E_{H2Omolecule} = 1.2522459459 \times 10^{-22}\ joule$ 49)

We may utilize a similar process to derive the energy to break one molecule from its fellow molecules at the boiling point of water.

First, the latent heat of vaporization is stated: $E_{vap} := 2.26 \cdot 10^{06} \cdot \frac{joule}{kg}$ (Established constant.) 50)

Then the energy required to create steam from water at the boiling point of H_2O is:

$E_{boil\_mol} := E_{vap} \cdot H2O_{totw}$ or, $E_{boil\_mol} = 4.0714535155 \times 10^{4}\ joule$ 51)

Finally, the energy required to **break one molecule from another at the boiling point of water is:**

$E_{mol\_boil} := \frac{E_{boil\_mol}}{A_{ve}}$ or, $E_{mol\_boil} = 6.7608118439 \times 10^{-20}\ joule$ 52)

The temperature in kelvins related to the above E_{mol_boil} energy is:

$T_{mol\_boil} := \frac{2 \cdot E_{mol\_boil}}{3 \cdot \pi \cdot B_k}$ or, $T_{mol\_boil} = 1.0391341175 \times 10^{3}\ K$ 53)

It is well known that the **bulk temperature** of water at boiling point at sea level is 373.15 degrees Kelvin. The above analysis reveals that the molecular separation energy and its related temperature exceeds the bulk boiling temperature by a ratio of 2.7845 times! I propose this energy comes from what I call *energy space.*

The quantum frequency associated with the above energy is derived below as:

$f_{mol\_boil} := \frac{E_{mol\_boil}}{h}$ $f_{mol\_boil} = 1.0203342603 \times 10^{14}\ Hz$ 54)

The frequencies of the referenced f_{main} above and f_{mol_boil} are quite close.

Note: $\dfrac{f_{main}}{f_{mol\_boil}} = 0.9333793733$ $\quad f_{main} = 9.523589524 \times 10^{13}\,\mathrm{Hz}$ 55)

In the above paragraph, the 2.7845 ratio of the Tmol_boil to the bulk temperature is close to the natural number e which also shows up in my previous work in reference #**5** concerning the solution of the pressure wave force coming from the proton.

An analysis regarding the N1 shell of the Bohr atom of hydrogen is shown below regarding reference **5** above. Then a further analysis will involve only the monatomic hydrogen case where Z = 1.

$$\varepsilon_o := 8.854187817\cdot 10^{-12}\cdot\frac{\mathrm{farad}}{\mathrm{m}} \qquad q_o := 1.602177330\cdot 10^{-19}\cdot\mathrm{coul}$$ 56)

5

$$R_{n1} := 5.291772490\cdot 10^{-11}\cdot\mathrm{m} \qquad R'_{n1} := R_{n1}\cdot(e) \qquad R'_{n1} = 1.4384529\times 10^{-10}\,\mathrm{m}$$ 57)

$$F'_{n1} := \frac{{q_o}^2}{4\cdot\pi\cdot\varepsilon_o\cdot\left(R'_{n1}\right)^2} \qquad \Delta R_{n1} := R'_{n1} - R_{n1} \qquad \Delta R_{n1} = 9.0927565099\times 10^{-11}\,\mathrm{m}$$ 58)

$$\Delta E_{n1} := F'_{n1}\cdot\Delta R_{n1} \qquad \Delta f_{\Delta n1} := \frac{\Delta E_{n1}}{h} \qquad \Delta f_{\Delta n1} = 1.5300670398\times 10^{15}\,\mathrm{Hz}$$ 59)

The resulting ratio at the right expresses the fact that f_{main} is very close to 1/16 $\Delta f_{\Delta n1}$ above which places $\Delta f_{\Delta n1}$ / 4 near the frequency of the **primordial f_{FQK} frequency constant = 3.809435813 x 10^14 Hz** which is the gateway to energy space for the force constant related directly to reference #**2** above.

$$\frac{\Delta f_{\Delta n1}}{4} = 3.8251675996\times 10^{14}\,\mathrm{Hz}$$ 60)

(The above is then for the N=2 shell.)

$$f_{main} = 9.523589524\times 10^{13}\,\mathrm{Hz}$$ 61)

$$\Delta\lambda_{\Delta n1} := \frac{c}{\left(\dfrac{\Delta f_{\Delta n1}}{4}\right)} \qquad \text{or,} \quad \Delta\lambda_{\Delta n1} = 7.8373679112\times 10^{-7}\,\mathrm{m}$$ **This wavelength is fundamental to the energy space connector.** 62)

Again, the above wavelength is in the upper infrared region of light and is also very close to the electromagnetic gateway frequency[2] (f_{FQK}) of the electrogravitational force constant connection to energy space.

It is also apparent that since the f_{mol_boil} is slightly above f_{main}, there may be a direct connection to energy space very near the individual molecular energy at the boiling point of water so that energy from energy space could be induced into the water molecules on a statistically individual basis and thus raising them above the bulk boiling temperature of water. This could also cause an increasing chain reaction of induced energy if the temperature and thus bulk heat were raised very quickly. The result would be a possible boiler explosion or even explain why microwaved hot water suddenly 'explodes' when moved or otherwise agitated physically. In the main, we observe only the bubbles in the boiling water.

Next, a range variable n is established for the purpose of simultaneously plotting the quantum frequencies derived from the quantum energies related to the Bohr radii and the ΔR_{n1} at increasing radii as a function of n. Note that 4n would be equal to N2, or the second shell of the H1 atom. The expression for the Bohr H1 atomic levels involving the changing radius as a function of N is stated as: $R_N = R_{n1} * (N^2)$.

Note: n is <u>not</u> the shell number, it is the range variable for the below analysis. Also, R'_{n1} is based on R_{n1}*e instead of the N1 wavelength of $2\pi * R_{n1}$.

Let: $n := 1, 1.01 .. 24$ Or: $N(n) := \sqrt{n}$ 63)

N = actual shell number

Also: $R_{n1} := 5.291772490 \cdot 10^{-11} \cdot m$ $R'_{n1} := R_{n1} \cdot (e)$ or, $R'_{n1} = 1.4384529 \times 10^{-10}\,m$ 64)

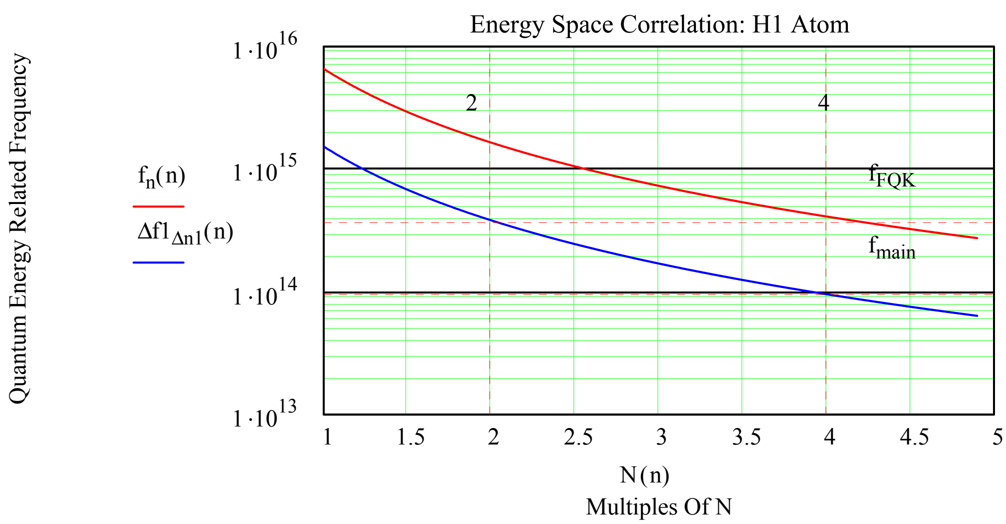
$$F'_N(n) := \frac{q_o^{\,2}}{4 \cdot \pi \cdot \varepsilon_o \cdot \left(\left(N(n)^2 \cdot R'_{n1} \right) \right)^2} \qquad \Delta R_{n1}(n) := N(n)^2 \cdot \left(R'_{n1} - R_{n1} \right) \qquad E_n(n) := m_e \cdot \left(\frac{c \cdot \alpha}{N(n)} \right)^2 \quad 65)$$

$$\Delta E_{n1}(n) := F'_N(n) \cdot \Delta R_{n1}(n) \qquad \Delta f1_{\Delta n1}(n) := \frac{\Delta E_{n1}(n)}{h} \qquad f_n(n) := \frac{E_n(n)}{h} \quad 66)$$

where, $\Delta f1_{\Delta n1}(4) = 3.8251675996 \times 10^{14}\,Hz$ and $f_n(16) = 4.1123024135 \times 10^{14}\,Hz$ 67)

$f_{FQK} := 4 \cdot f_{main}$ or, $f_{FQK} = 3.8094358096 \times 10^{14}\,Hz$ ($f_{main} = 9.523589524 \times 10^{13}\,Hz$) 68)

Plot #5 below establishes a direct correlation between f_{FQK} and Bohr H1 energy in the second shell.



From the above chart, it is apparent that the second shell (N = 2) of the H1 atom is the proximity point for the energy related to the f_{FQK} energy space input. The fourth shell (N = 4) is shown as the proximity point for the f_{main} energy point. The f_{main} energy point is also near the energy required to break one water molecule from its neighbors at the boiling point of water. <u>It is above 373.15 degrees Kelvin at 1039 degrees Kelvin.</u>

There exists a small difference in the quantum related energy between the $\Delta f1_{\Delta n1}$ frequency and the negative field energy f_{FQK} from energy space input at N2 **which is a constant for all atoms.**

$f_{diff} := \left(\Delta f1_{\Delta n1}(4) - f_{FQK} \right)$ $f_{diff} = 1.5731789989 \times 10^{12}\,Hz$ $E_{diff} := f_{diff} \cdot h$ 69)

The related temperature in degrees Kelvin is: $T_{diffK} := \frac{E_{diff}}{3 \cdot \pi \cdot B_k} \cdot 2$ $T_{diffK} = 16.0216512795\,K$ 70)

The equivalent temperature in degrees centigrade related to E_{diff} is:

$$T_{diffC} := \frac{T_{diffK} - 273.15 \cdot K}{K} \qquad T_{diffC} = -257.1283487205 \qquad \text{degrees centigrade} \qquad 71)$$

The equivalent temperature in degrees Fahrenheit related to E_{diff} is:

$$T_{diffF} := \left[T_{diffC} \cdot \left(\frac{9}{5}\right)\right] + 32 \qquad T_{diffF} = -430.8310276969 \qquad \text{degrees Fahrenheit} \qquad 72)$$

It is proposed herein that the temperature above may be extended to a general case wherein a close spacing involving a shell of an atom where the energy space input and a Bohr shell energy have a small difference as shown above.

The following shell list shows an interesting relationship of E_{diff} to the Compton wavelength of the electron. It suggests the reason why the electron is more stable in some shells than others.

Note: $\lambda_e := \frac{h}{m_e \cdot c}$ $\qquad \lambda_e = 2.4263106 \times 10^{-12}\, m$ 73)

$$\frac{E_n(1) - E_n(4)}{\Delta E_{n1}(1) \cdot 2 \cdot \left(\frac{4}{\pi}\right)^2} = 0.9947308747 \qquad 74)$$

Shell 1 $\left(\frac{4}{\pi}\right)^2 \cdot \frac{E_{diff}}{F'_N(1)} \cdot 16 = 2.4249537604 \times 10^{-12}\, m$ 75)

$$\frac{E_n(4) - E_n(16)}{\Delta E_{n1}(4) \cdot 2 \cdot \left(\frac{4}{\pi}\right)^2} = 0.9947308747 \qquad 76)$$

Shell 2 $\left(\frac{4}{\pi}\right)^2 \cdot \frac{E_{diff}}{F'_N(4)} \cdot (1) = 2.4249537604 \times 10^{-12}\, m$ 77)

Shell 3 $\left(\frac{4}{\pi}\right)^2 \cdot \frac{E_{diff}}{F'_N(9)} \cdot \frac{1}{5.0625} = 2.4249537604 \times 10^{-12}\, m$ 78)

$$\frac{E_n(9) - E_n(36)}{\Delta E_{n1}(9) \cdot 2 \cdot \left(\frac{4}{\pi}\right)^2} = 0.9947308747 \qquad 79)$$

Shell 4 $\left(\frac{4}{\pi}\right)^2 \cdot \frac{E_{diff}}{F'_N(16)} \cdot \frac{1}{16} = 2.4249537604 \times 10^{-12}\, m$ 80)

$$\frac{E_n(16) - E_n(64)}{\Delta E_{n1}(16) \cdot 2 \cdot \left(\frac{4}{\pi}\right)^2} = 0.9947308747 \qquad 81)$$

Shell 5 $\left(\frac{4}{\pi}\right)^2 \cdot \frac{E_{diff}}{F'_N(25)} \cdot \frac{1}{39.0625} = 2.4249537604 \times 10^{-12}\, m$ 82)

Shell 6 $\left(\frac{4}{\pi}\right)^2 \cdot \frac{E_{diff}}{F'_N(36)} \cdot \frac{1}{81} = 2.4249537604 \times 10^{-12}\, m$ 83)

$$f_n(9) - f_{FQK} = 3.5013240366 \times 10^{14}\, Hz \qquad 84)$$

Again, E_{diff} is the difference in the quantum energy between the Bohr N2 energy and the negative field energy from energy space input at N2. The shell with the multiplier (1) is the second shell. It may be of interest to examine atoms with increasing charge, or Z number, for related shells that equate to the E_{diff} shown above. It is also of interest that the $4/\pi$ term appears in the above atomic energy shell calculations wherein it is the familiar number related to the Great Pyramid at Giza. the number $4/\pi$ is also very close to the square root of the golden ratio, or $\Phi^{1/2}$.

The golden ratio is ubiquitous throughout nature, from the form of spiral galaxies to the world of the quantum. Below is the familiar equation that expresses Φ.

$$\Phi := \frac{1 + \sqrt{5}}{2} \qquad \Phi = 1.6180339887 \quad \text{and} \quad \Phi = 1.6180339887 \qquad \left(\frac{4}{\pi}\right)^2 = 1.6211389383 \qquad 85)$$

The energy domain between the fourth and first shells of monatomic Hydrogen is that energy that is stored in the field if no electrons are available to conjugate the field energy. The energy in the field is negative field energy while the pressure wave associated with that energy field is a positive pressure wave. The proton is the source of the negative energy field while an electron is the positive energy field conjugate of the negative energy field supplied by the proton. However, if the electron is moved outwards beyond the N = 4 shell, the negative energy and positive pressure wave of the proton field will continue to build until it eventually finds an electron which "sinks" the negative proton field energy. It is possible by the above analysis to postulate that the gaseous H1 pressure wave buildup may occur in water so that bubbles form as previously described.

If the energy stored between n = 1 and n = 4 of the chart above is equated to calories per gram, a very interesting, if not astounding result is arrived at. The result is for one atom of Hydrogen.

$$\frac{\Delta E_{n1}(1) - \Delta E_{n1}(4)}{1 \cdot AMU} = 1.093695673 \times 10^{5} \frac{cal}{gm} \qquad \text{and from}^{5} \text{ above,} \qquad E_{fld} = 1.09 \times 10^{5} \frac{cal}{gm} \qquad 86)$$

The energy available for useful work (left equation above) is equal to the previously stated energy shown as E_{fld} on the right. Minus the dissociation energy is given in reference #5 will yield the net energy available for useful work as:

$$NetE := E_{fld} - E_{cal\_gram} \qquad NetE = 1.08897 \times 10^{5} \frac{cal}{gm} \qquad \text{where,} \qquad E_{cal\_gram} = 103 \frac{cal}{gm} \qquad 87)$$

The proton pressure wave acts between two monatomic atoms of diatomic Hydrogen to reduce the binding force between the two atoms to a very low energy compared to the energy built into the field between the n = 1 and n = 4 shells of monatomic Hydrogen. Then it is to be concluded, as postulated in my previous work[3], if a single proton were to exist in space apart from any conjugating electron field, the total summed energy would continue to build towards infinity over a nearly infinite amount of time.

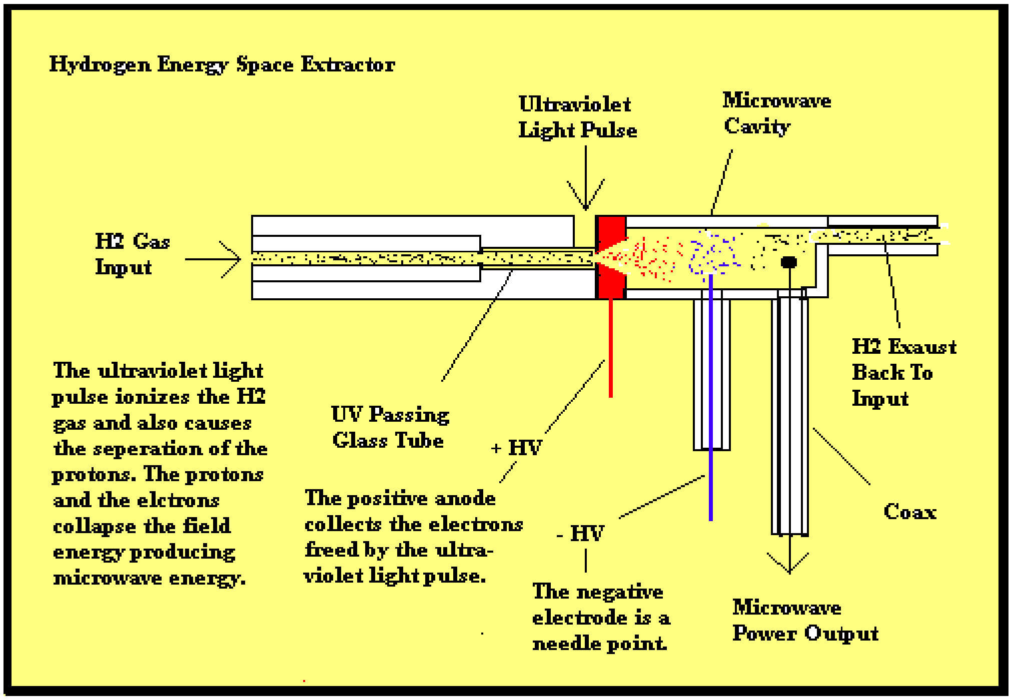
The reason for the disassociation energy being very much less than the energy released by the recombination of the hydrogen atoms may be explained as follows: Since there is only one electron in a monatomic hydrogen atom, it cannot completely shield the proton field since there is a a non-conjugated field opposite to the side of the proton shell occupied by an electron. Thus the unshielded side of the proton shell in monatomic hydrogen is free to build a pressure wave field. For the case of diatomic hydrogen, the shielding is much better since two electrons are available to fill the half-wavelength spaces. However, the binding force is reduced by the pressure wave coming from each H1 atom.

From above:

$$\frac{E_{cal\_gram}}{h} \cdot 2 \cdot AMU = 2.1614363436 \times 10^{12}\,Hz \qquad f_{disatom} = 2.1785981482 \times 10^{12}\,Hz \qquad 88)$$

It is herein suggested that an electromagnetic frequency such as $f_{disatom}$ above may be used to disassociate diatomic Hydrogen, flowing as a thin stream of H2, and then allowing the atoms to recombine in a larger vacume chamber microwave cavity to capture the energy released by the n = 4 to n = 1 shell transition during field *fusion* as explained above. The final result is: H1 + H1 = H2. Thereafter the process may be cycled indefinitely since the field energy is supplied from energy space which acts as the energy pump between the n = 4 to n = 1 shell of the Hydrogen atom.

The figure below is a suggested method of testing for the energy available from the free proton as outlined above. The chamber where the protons are injected could be adjusted to be much larger or even be made a variable volume to allow for tuning the output energy.



The negative energy from the proton field over time will fill all of the universe. This is proposed in my work as the mechanism of the source of negative energy which only recently has been determined by astronomers to exist. This also goes along with my contention that the universe is not a closed system and has never been a closed system, even from the primordial event of the Big Bang.

As presented in my previous papers, non-local space, which contains the energy that feeds the field energy of all matter, is the gateway for the instantaneous action between the magnetic vector potentials associated with all basic particles, and as a result, all matter must experience a gravitational force field. As a necessary result, electrogravitational field theory requires instantaneous action between affected matter and cannot rely on spin 2 gravitons traveling at the speed of light, or for that matter, any means of gravitational connection involving the limiting speed of light. This does not obviate the General Theory of Relativity which applies only to local reference frames and observers will still agree that the apparent curvature of space predicted by the General Theory of Relativity still works for local space observables.

The above analysis presents the force times distance energy related to the natural number e times the Bohr radius in comparison to the shell "kinetic" energy. The shell kinetic energy is based on the calculated electron velocity within the allowed orbital's which are integer multiples in wavelength and are considered as DeBroglie standing wave wavelengths. The physics of that picture of the atom is further "clouded" with the concept that the electron is actually to be viewed as a probability wave around the nucleus with its most probable location very near the "orbital" DeBroglie wavelength. The mechanics of why the electron is not pulled into the nucleus is not explained in light of the standing wave concept of the shell electron.

Please note that reference **5**, pp 30-33 inclusive, presented a proton pressure wave concept that balances the field pressure on the electron against the coulombic force of attraction and thus removes the necessity of the electron having a so-called orbital velocity. It can however have an equivalent kinetic energy but in actuality, it is actually in a "cloud" around the proton nucleus and it still has its associated magnetic and spin vectors since it is still a standing wave of probability. Thus the idea of a fictitious rotational inertial force balancing the centripetal coulombic force of attraction is no longer needed.

The Electrogravitational Correlation

On the main page of my web site at http://www.electrogravity.com is an equation which states the mechanics of electrogravitation between two local systems of vector magnetic potential connected by the non-local force constant F_{FQK}. First the pertinent electrogravitational parameters for calculation are stated.

$f_{LM} := 1.003224805 \cdot 10^{01} \cdot Hz$ Least quantum energy equivalent frequency.

$v_{LM} := \sqrt{h \cdot f_{LM} \cdot m_e^{-1}}$

where $v_{LM} = 0.0854245461\, m\, sec^{-1}$ Least quantum electrogravitational velocity.

$\lambda_{LM} := \dfrac{h}{m_e \cdot v_{LM}}$

where, $\lambda_{LM} = 8.5149954142 \times 10^{-3}\, m$ Least quantum electrogravitational wavelength.

$i_{LM} := q_o \cdot f_{LM}$ Least quantum electrogravitational current.

$m_p := 1.672623100 \cdot 10^{-27} \cdot kg$ Proton rest mass.

$\mu_o := 4 \cdot \pi \cdot 1 \cdot 10^{-07} \cdot henry \cdot m^{-1}$ Free space magnetic permeability.

$\mu_p := \mu_o \cdot m_p \cdot m_e^{-1}$ Proton space relative permeability.

$l_q := R_{n1} \cdot \alpha^2$ Electron classic radius.

$G := 6.672590000 \cdot 10^{-11} \cdot newton \cdot m^2 \cdot kg^{-2}$ Standard gravitational constant.

Then for the n1 shell of monatomic Hydrogen, the electrogravitational force between the proton and the electron is calculated as:

Local System 1	Universal Non-Local	Local System 2
N1 A-Vector	Force Constant	N1 A-Vector

$$F_{EG} := \left(\frac{\mu_p \cdot i_{LM} \cdot \lambda_{LM}}{4 \cdot \pi \cdot R_{n1}}\right) \cdot \left(\frac{i_{LM} \cdot \lambda_{LM}}{l_q} \cdot \mu_o \cdot \frac{i_{LM} \cdot \lambda_{LM}}{l_q}\right) \cdot \left(\frac{\mu_o \cdot i_{LM} \cdot \lambda_{LM}}{4 \cdot \pi \cdot R_{n1}}\right) \qquad 89)$$

$$F_{EG} = 3.6410414746 \times 10^{-47}\, newton \cdot \frac{henry}{m} \cdot newton$$

The Newtonian equivalent is calculated as:

$$F_{Newton} := \frac{G \cdot m_p \cdot m_e}{R_{n1}^2} \qquad F_{Newton} = 3.6306090326 \times 10^{-47}\, newton \qquad 90)$$

As in my previous papers, the electrogravitational force units have one of the newton terms as a constant. Thus the observed force falls off inversely as the square of the distance, just as for the calculated force Newtonian. The henry per meter is a constant in free space as well as all other constants in the EG equation, except for the radius of action, which in the example above is the R_{n1} distance.

This is leading up to establishing a direct connection between the force constant F_{FQK} and the hyperfine radiation of the H1 atom.

Let: $F_{FQK} := \frac{i_{LM} \cdot \lambda_{LM}}{l_q} \cdot \mu_o \cdot \frac{i_{LM} \cdot \lambda_{LM}}{l_q}$ Then: $F_{FQK} = 2.9643714417 \times 10^{-17}$ newton 91)

The above is the universal non-local electrogravitational force connector. Next, the electrogravitational force constant frequency is calculated as:

$f_{FQK} := \left(F_{FQK} \cdot \lambda_{LM}\right) \cdot h^{-1}$ or, $f_{FQK} = 3.8094358014 \times 10^{14}$ Hz (As above in this document.) 92)

The below equations establish the relationship and correlation dimensionally between the wavelength of the hyperfine H1 radiation and that in the N1 shell distance of the electrogravitation force constant. Thus it is established that the hyperfine frequency arises from the pressure wave as presented above.

Define: $E_{n1} := m_e \cdot c^2 \cdot \alpha^2$ or, $E_{n1} = 4.3597482033 \times 10^{-18}$ joule Then:

$$\frac{E_{n1}}{F_{FQK}} \cdot \left(\frac{4}{\pi}\right)^{1.5} = 0.2112973083\,\mathrm{m} \quad \text{and} \quad \frac{c}{f_{H1}} = 0.2110611407\,\mathrm{m} \quad = \lambda_{H1} \qquad 94)$$

It is of interest that the electron classic radius may be calculated based on 4π times the electrogravitational least quantum energy divided by the universal force constant F_{FQK} as follows:

$$4 \cdot \pi \cdot \left(h \cdot f_{LM} \cdot F_{FQK}^{-1}\right) = 2.8179409297 \times 10^{-15}\,\mathrm{m} \quad \text{where,} \quad l_q = 2.8179409235 \times 10^{-15}\,\mathrm{m} \qquad 95)$$

Compton wavelength of the Proton is: $\lambda_p := \frac{h}{m_p \cdot c}$ $\lambda_p = 1.321409993 \times 10^{-15}$ m 96)

Finally, we have: $\frac{2 \cdot \pi \cdot l_q}{\lambda_p \cdot \alpha} = 1.8361527429 \times 10^3$ where also, $\frac{m_p}{m_e} = 1.8361527557 \times 10^3$ 97)

As a result of the above presentation, it is established mathematically that there is energy in abundance in the Hydrogen atom's proton pressure wave. Further, that the **F**orce **Q**uantum **C**onstant, $\mathbf{F_{FQK}}$ is the source connector for the energy in the proton pressure wave coming from non-local energy space. The proton and the electron Compton dimensions provide the electrogravitational dimensional interface between local and non-local space as shown in equations 95-97 above..

Energy removed from the proton pressure wave must be replace through the force constant interface to non-local energy space. The electrogravitational equation above contains the magnetic permeability of free space parameter which is part of the force constant equation. Then it is possible to remove energy from a magnetic field in quantum fashion and the energy will be replaced via the force constant energy space connection. Recently, there are claims of a generator which is called the motionless magnetic generator which appears to accomplish energy extraction from the magnetic field of a permanent magnet. The above analysis explains the mechanics of that process.

A portion of the electrogravitational equation is presented below to illustrate that a magnetic force field may be developed directly from part of the electrogravitational equation.

$$F_{Men1} := \left(\frac{\mu_o \cdot i_{LM} \cdot \lambda_{LM}}{4 \cdot \pi \cdot R_{n1}}\right) \cdot \left(\frac{i_{LM} \cdot \lambda_{LM}}{l_q}\right) \qquad F_{Men1} = 1.2561846337 \times 10^{-22} \text{newton} \qquad 98)$$

The magnetic field at the n1 radius of the H1 atom is calculated relative to the electron as:

$$B_{en1} := \left(\frac{\mu_o \cdot i_{LM} \cdot \lambda_{LM}}{4 \cdot \pi \cdot R_{n1}}\right) \cdot \frac{1}{l_q} \qquad B_{en1} = 9.1782569983 \times 10^{-3} \text{tesla} \qquad 99)$$

Conclusion:

It is demonstrated by this work of a strong possibility of the existence of clean and unlimited free energy being available from the monatomic Hydrogen atom. Further, the process of energy extraction was not limited to the pressure wave of the proton in Hydrogen, but may also include methods of energy extraction from the quantum magnetic field, which must also be connected to the quantum force constant non-local energy space interface as presented above. This is also true for the electrogravitational action. Finally, the mathematical correlation that the energy in boiling water necessary to break one molecule from its neighbors was supplied in part by energy space via the quantum force constant.

The time is well neigh to utilize free proton pressure wave energy and whatever other methods of energy extraction from energy space that may be developed. The use of fuels that pollute cannot be allowed to continue in the face of global warming and death of the oceans. I heard recently that 800 million people go to sleep at night hungry. Free energy will allow for desalinization to water crops and end hunger. The poor of this world could rise to a new economic freedom in short order if they had a personal energy supply, one for each household or village.

This technology does not rely on whether the sun shines or if it rains to fill a lake or stream. It works as well in deep space as on the Earth. In fact, due to the electrogravity connection to the same force constant that allows for the proton pressure wave, people would not have to live permanently on the Earth at all.

Ω

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5. **http://www.electrogravity.com/EnergySpiral_3/EnergySpiral_3.pdf**, "*Hydrogen As A Free Energy Sour Defines A New Universe*," pp. 26 to 41 inclusive.