THE FINAL INVESTIGATION ON TORUS EXPERIMENT IN AQUINO'S SET UP

In the following investigation, we are going to examine the equations of System G, according to Professor Aquino's claims.

THE EQUATIONS FOR THE TORUS EXPERIMENT ARE THE FOLLOW:

Velocity of EM Waves in Iron Powder

$$v_{ip} = \sqrt{\frac{4\pi f}{\mu_{ip}\sigma_{ip}}}$$

$f = Working\ Frequency\ of\ the\ System$

$\mu_{ip} = Magnetic\ Permeability\ of\ Iron\ Powder$

$\sigma_{ip} = Conductivity\ of\ Iron\ Powder$

Radiation Resistance of System G(Iron Torus is not used as we can see)

$$R_r = \frac{1}{3}\sqrt{\pi f^3 \mu_{ip}^3 \sigma_{ip}} \cdot (\Delta z)^2$$

$\Delta z = Length\ of\ the\ Antenna$

The other Parameters are Known from the Velocity in Iron Powder.

ELF Energy Absorbed by an atom and calculation of the Refractive Index in Torus Shield Iron

$$U = \eta \frac{I_{rms}^2 \cdot R_r}{f \cdot S_{torus}} S_a$$

$$n_r = \frac{c}{v_s} \quad , where \quad v_s = \sqrt{\frac{4\pi f}{\mu_s \sigma_s}}$$

$c = speed\ of\ light$

$\eta = efficiency\ of\ absorbption$

S_a , S_{torus} $are\ the\ Surfaces\ of\ the\ Iron\ Atom\ and\ the\ Torus\ Surface$

$v_s, \mu_s, \sigma_s\ are\ for\ the\ Shield\ Iron\ Torus$

$I_{rms} = Current\ through\ Antenna$

$U = Absorbed\ Energy\ by\ An\ Iron\ atom$

$n_r = refraction\ index\ in\ Shield\ Iron\ Torus$

$R_r = Radiation\ Resistance\ of\ the\ Antenna$

Thickness calculation for Total Energy Absorbtion

$$\delta = \frac{1}{\sqrt{\pi f \mu_s \sigma_s}} \quad , for \;\; 5\delta, we \; have \; total \; absorption \; by \; the \; Shield \; Iron \; Torus$$

Energy and Power Density Required for Gravity Shielding of an Iron Atom in Torus

$$U_{Gravity\;Shielding} = \frac{\sqrt{5} \cdot m_{iron\;atom} \cdot c^2}{2n_r}$$

$$D_{Gravity\;Shielding} = \frac{U_{Gravity\;Shielding} \cdot f}{S_a}$$

$D_{Gravity\;Shielding} = Power \; Density \; through \; an \; Iron \; Atom \; for \; Gravity \; Shielding$

$n_r = refraction \; index \; in \; Iron \; Torus$

$U_{Gravity\;Shielding} = Energy \; required \; for \; Gravity \; Shielding \; of \; an \; Iron \; Atom$

Radiated Power Required for the Gravity Shielding of the Torus. Calculation can be provided by two independent equations.

$$P_{Torus\;Gravity\;Shielding} = D_{Gravity\;Shielding} \cdot S_{torus} \quad or \quad P_{Torus\;Gravity\;Shielding} = \frac{I^2_{o\;Gravity\;Shielding}}{2} \cdot R_r$$

$I_{o\;Gravity\;Shielding} = The \; Current \; Peak \; of \; Sinus \; Current \; for \; Gravity \; Shielding$

$R_r = Radiation \; Resistance \; of \; the \; Antenna$

Calculation of the mass of the Shield Torus Iron

$$V_{total} = 2\pi^2 r^2_{ext} \cdot R_{torus} \; and \; V_{empty} = 2\pi^2 r^2_{inner} \cdot R_{torus}$$

$$V_{shield\;Iron} = V_{total} - V_{empty}$$

$$m_{shield\;Iron} = d_{iron} \cdot V_{shield\;Iron}$$

Now we will calculate the results for the given value of parameters:

$\mu_{ip} = 75\mu_o \Rightarrow \mu_{ip} = 75 \cdot 4 \cdot \pi \cdot 10^{-7} H/m$

$\sigma_{ip} = 10 \; S/m$

$f = 60 \; Hz$

$\Delta z = 12 \; m$

$$\eta \simeq 1$$

$$S_a = 2,46 \cdot 10^{-19} m^2$$

$$S_{torus} = 0,374 m^2$$

$$c = 3 \cdot 10^8 \frac{m}{s}$$

$$\mu_s = 25000 \mu_o \Rightarrow \mu_s = 25000 \cdot 4 \cdot \pi \cdot 10^{-7} H/m$$

$$\sigma_s = 1,03 \cdot 10^7 \ S/m$$

$$m_{iron \ atom} = 55,85 \cdot \left(1,66 \cdot 10^{-27} Kgr\right) = 9,27 \cdot 10^{-26} Kgr$$

$$d_{iron} = 7840 \ \frac{Kgr}{m^3}$$

$$r_{ext} = 0,03175 \ m \ \ and \ \ R_{torus} = 0,32 \ m$$

$$r_{inner} = 0,031 \ m$$

$$V_{shield \ Iron} = 25 \cdot 10^{-5} m^3$$

$$m_{shield \ Iron} = 1,96 \ Kgr$$

Results of the equations from above values of parameters

$$v_{ip} = 2,82 \cdot 10^3 m/\sec$$

$$R_r \simeq 115 \ mOHM \ \ \ or \ \ \ R_r \simeq 0,115 \ OHM$$

$$\lambda = \frac{v_{ip}}{f} = 47 \ m$$

$$\frac{\Delta z}{\lambda} = \frac{12}{47} \simeq \frac{1}{4} \ \ Marconi \ Antenna \ in \ the \ Iron \ Powder \ propagating \ medium$$

$$v_s = 48 \cdot 10^{-3} m/s$$

$$n_r = 622 \cdot 10^7$$

$$\delta \simeq 0,134 \cdot 10^{-3} m \ \ and \ \ 5\delta \simeq 0,67 \cdot 10^{-3} m$$

$$or \ 5\delta \equiv Thickness_{torus} \simeq 0,67 \ mm$$

$$U_{Gravity\ Shielding} = 147 \cdot 10^{-20}\ Joules\ for\ an\ Atom\ for\ n_r = 622 \cdot 10^7$$

$$and\ \mu_s = 25000\mu_o\ \ for\ Torus$$

$$D_{Gravity\ Shielding} = 358,53\frac{Watt}{m^2}\ \ for\ an\ Atom$$

$$P_{Torus\ Gravity\ Shielding} = 358,53\frac{Watt}{m^2} \cdot 0,374m^2, then$$

$$P_{Torus\ Gravity\ Shielding} \simeq 134,09\ Watt$$

$$m_{g(Torus\ Shield)} = m_{i(Torus\ Shield)} - 2m_{i(Torus\ Shield)}\left\{\sqrt{1+\left(\frac{U_{Atomic\ Absorbtion}}{m_{i(Iron\ Atom)}c^2}n_r\right)^2}-1\right\}$$

$$\boxed{m_{g(Torus)} = 1,96Kgr - 2 \cdot 1,96Kgr\left\{\sqrt{1+2,21\cdot 10^{-7} \cdot I^4{}_0}-1\right\}}$$

The Weight of Torus is nulled for:

$$I_0 \simeq 48,76\ A\ \ or\ I_{rms} \simeq 34,58A$$

$$P_r = \frac{I^2{}_o}{2} \cdot R_r\ \ \ \ \ , where\ R_r = 0,115OHM, then$$

$$P_r \simeq 136,70\ Watt$$

That means our calculations are correct, because before we calculated that:

$$P_{Torus\ Gravity\ Shielding} = 358,53\frac{Watt}{m^2} \cdot 0,374m^2, then$$

$$P_{Torus\ Gravity\ Shielding} \simeq 134,09\ Watt$$

We have a difference of 2,61 Watt, because the current was calculated by SysG.xls Graph.So this difference is an expected result.More accurate the current, then closer to the exact power of 134,09 Watt.

So for $I_0 = 144,95A$

$$m_{g(Torus)} \simeq -33,04Kgr$$

That means:

$$\left|-33,04Kgr\right| + \left|1,96Kgr\right| = 35Kgr$$

According to Aquino the System G has an Initial Weight of 35 Kgr.We found that for 144,95A the System's G weight is nulled.It is clearly that all the job is done by the torus weight of 1,96Kgr.
When the torus weight becomes negative enough, it nullifies the added weight of the construction which is 33,04 Kgr (weight of the Iron powder,cables, e.t.c).

So the Antigravity effect (Negative Mass of Torus) is responsible for the above results of the nulling of the whole weight of the System G.

Then the weight of 33,04Kgr we can consider it as a Weight Load.Then the equation may be re-written as follows:

$$m_{g(Torus)} + m_{Load} = m_{Load} + 1,96 Kgr - 2 \cdot 1,96 Kgr \left\{ \sqrt{1 + 2,21 \cdot 10^{-7} \cdot I^4_{\ 0}} - 1 \right\}$$

The Equation (J.X Equation)of Aquino's System G is the Following:

$$\boxed{m_{g(System\ G)} = 35 Kgr - 2 \cdot 1,96 Kgr \left\{ \sqrt{1 + 2,21 \cdot 10^{-7} \cdot I^4_{\ 0}} - 1 \right\}}$$

Then again for $I_0 = 144,95A$ the Gravitational Mass of the System G,is nulled.

The required Power to achieve the above (Null the weight of System G and not to Gravity Shield it) result is:

$$P_r = \frac{I^2_{\ o}}{2} \cdot R_r \quad , where\ R_r = 0,115 OHM , then$$

$$P_r \simeq 1208,10\ Watt$$

Now to null a System G with weight of 100 Kgr(with added load=65Kgr) in 60 Hz with same Torus Weight and Surface, the required current and power are:

$$I_o \simeq 237,38\ A\ and\ P_r \simeq 3240\ Watt$$

CALCULATION FOR THE USED TRANSFORMER

Professor Aquino, used the following true parameters:

$$\frac{n_1}{n_2} = \frac{12 \ Pr\,imary \ turns}{2 \ Secondary \ turns}$$

$$I_1^2 \cdot Z_1 = I_2 \cdot Z_2 \Rightarrow 11500VA = I_2 \cdot Z_2$$

$$and \ \ \frac{n_1}{n_2} = \frac{U_1}{U_2} \Rightarrow U_2 = \frac{220V}{6} = 36,6V_{rms}$$

$$and \ 11500VA = \frac{U_2^{\ 2}}{Z_2} \Rightarrow Z_2 \simeq 0,115OHM$$

That means the Primary to Secondary turns of the Transformer and for 11500VA, gives the right impedance (Matching) for the secondary, to have the maximum delivering power to the Load (ELF Torus Antenna).

By the basic Electronics, we know the maximum Power, where can be delivered by a Transformer to a Load, is when we have matching conditions, between the Secondary and the Load. That means:

$$Z_{sec} = R_{Load} \Rightarrow Z_2 = R_r \simeq 0,115OHM \ \ or \ \ 115mOHM$$

Then the Maximum Power which can be delivered by the Transformer to the Antenna is:

$$I_r = \frac{U_2}{Z_2 + R_r} \Rightarrow I_r = \frac{36,6}{0,231} \Rightarrow I_r = 158,44 \ A_{rms} \ or \ I_{r_o} = 158,44 \cdot \sqrt{2} \simeq 223,4A$$

Maximum Power, where can be delivered to the Antenna:

$$P_r = I_r^2 \cdot R_r \Rightarrow 158,44^2 \cdot 0,115 \simeq 2886 \ Watt$$

$$then \ P_r \simeq 2886 \ Watt_{rms}$$

This power can null a System G with total weight of 88,14Kgr.

As we have seen, the required power to null the weight of 35Kgr of the System G, is 1208,10 Watt. This means, we have a technical subject here.

$$k = \frac{1208,10}{2886} \cdot 100 = 41,86\% \ used \ Power$$

As we know in Electronics, when we want to make a Power Supply, we choose a Transformer with the Double Delivering Power.

Example:For a Load of 100W, we choose a Transformer which can deliver in matching Conditions 200Watt.This happens, for many reasons.Some are:Not overload the Transformer or Overheating it in high Currents and because of the divergence (+-5%) of the 220V of the Network.More because of loss of Power in the core and to the non Main Load components.

So by this point of view, Professor made a technical option, which points in very small percent, that the experiment really took place.

Caution:The Above investigation was created, by considering that the Releative Magnetic Permeability is 25000 for Torus Shield and is constant vs Current, Temperature and other factors.We know that in practice this cannot be happened, because the Permeability changes vs Current, Temperature and to some other Factors.

So in the next Documents, we will try to approach the problem, more practical, that means considering that the Permeability changes vs some factors, which this will help to see the natural conditions of the experiment and the truth about it.

Sincerely

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