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)

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

\( \Delta z \) = 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

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

\[ n_r = \frac{c}{v_s}, \text{where } v_s = \sqrt{\frac{4\pi f}{\mu_s \sigma_s}} \]

\( c \) = speed of light
\( \eta \) = efficiency of absorption
\( S_a, S_{torus} \) 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 Absorption

\[ \delta = \frac{1}{\sqrt{\pi f \mu_s \sigma_s}} \], 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

\[ U_{\text{Gravity Shielding}} = \frac{\sqrt{5} \cdot m_{\text{iron atom}} \cdot c^2}{2n_r} \]

\[ D_{\text{Gravity Shielding}} = \frac{U_{\text{Gravity Shielding}} \cdot f}{S_a} \]

\[ D_{\text{Gravity Shielding}} = \text{Power Density through an Iron Atom for Gravity Shielding} \]

\[ n_r = \text{refraction index in Iron Torus} \]

\[ U_{\text{Gravity Shielding}} = \text{Energy required for Gravity Shielding of an Iron Atom} \]

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

\[ P_{\text{Torus Gravity Shielding}} = D_{\text{Gravity Shielding}} \cdot S_{\text{torus}} \text{ or } P_{\text{Torus Gravity Shielding}} = \frac{I_{\text{o Gravity Shielding}}^2}{2} \cdot R_r \]

\[ I_{\text{o Gravity Shielding}} = \text{The Current Peak of Sinus Current for Gravity Shielding} \]

\[ R_r = \text{Radiation Resistance of the Antenna} \]

Calculation of the mass of the Shield Torus Iron

\[ V_{\text{total}} = 2\pi^2 r^2_{\text{ext}} \cdot R_{\text{torus}} \text{ and } V_{\text{empty}} = 2\pi^2 r^2_{\text{inner}} \cdot R_{\text{torus}} \]

\[ V_{\text{shield Iron}} = V_{\text{total}} - V_{\text{empty}} \]

\[ m_{\text{shield Iron}} = d_{\text{iron}} \cdot V_{\text{shield Iron}} \]

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

\[ \mu_p = 75\mu_o \Rightarrow \mu_p = 75 \cdot 4 \cdot \pi \cdot 10^{-7} H/m \]

\[ \sigma_{ip} = 10 \ S/m \]

\[ f = 60 \ Hz \]

\[ \Delta z = 12 \ m \]
\( \eta \approx 1 \)
\( S_a = 2.46 \cdot 10^{-19} \text{m}^2 \)
\( S_{\text{torus}} = 0.374 \text{m}^2 \)
\( c = 3 \cdot 10^8 \frac{\text{m}}{\text{s}} \)
\( \mu_s = 25000 \mu_o \Rightarrow \mu_s = 25000 \cdot 4 \cdot \pi \cdot 10^{-7} \text{H/m} \)
\( \sigma_s = 1.03 \cdot 10^7 \frac{\text{S}}{\text{m}} \)
\( m_{\text{iron atom}} = 55.85 \cdot (1.66 \cdot 10^{-27} \text{Kgr}) = 9.27 \cdot 10^{-26} \text{Kgr} \)
\( d_{\text{iron}} = 7840 \frac{\text{Kgr}}{\text{m}^3} \)
\( r_{\text{ext}} = 0.03175 \text{ m} \) and \( R_{\text{torus}} = 0.32 \text{ m} \)
\( r_{\text{inner}} = 0.031 \text{ m} \)
\( V_{\text{shield Iron}} = 25 \cdot 10^{-5} \text{m}^3 \)
\( m_{\text{shield Iron}} = 1.96 \text{ Kgr} \)

Results of the equations from above values of parameters

\( v_{ip} = 2.82 \cdot 10^3 \text{ m/sec} \)

\( R_r \approx 115 \text{ mOHM} \) or \( R_r \approx 0.115 \text{ OHM} \)

\( \lambda = \frac{v_{ip}}{f} = 47 \text{ m} \)

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

\( v_s = 48 \cdot 10^{-3} \text{ m/s} \)

\( n_r = 622 \cdot 10^7 \)

\( \delta \approx 0.134 \cdot 10^{-3} \text{ m} \) and \( 5\delta \approx 0.67 \cdot 10^{-3} \text{ m} \)

or \( 5\delta \equiv \text{Thickness}_{\text{torus}} \approx 0.67 \text{ mm} \)
$U_{\text{Gravity Shielding}} = 147 \cdot 10^{-20}$ Joules for an Atom for $n_r = 622 \cdot 10^7$

and $\mu_s = 25000 \mu_\circ$ for Torus

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

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

\[ P_{\text{Torus Gravity Shielding}} = 134,09 \text{ Watt} \]

\[ m_g(\text{Torus Shield}) = m_i(\text{Torus Shield}) - 2m_i(\text{Torus Shield}) \left\{ \sqrt{1 + \left( \frac{U_{\text{Atomic Absorption}}}{m_i(\text{Iron Atom}) c^2} \right)^2 n_r} - 1 \right\} \]

\[ m_g(\text{Torus}) = 1,96 Kgr - 2 \cdot 1,96 Kgr \left\{ \sqrt{1 + 2 \cdot 21 \cdot 10^{-7} \cdot I_0^4} - 1 \right\} \]

The Weight of Torus is nulled for:

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

\[ P_r = \frac{I_o^2}{2} \cdot R_r, \text{ where } R_r = 0,115 \text{OHM}, \text{then} \]

\[ P_r \approx 136,70 \text{ Watt} \]

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

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

\[ P_{\text{Torus Gravity Shielding}} = 134,09 \text{ Watt} \]

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 $I_0 = 144,95 \text{A}$

\[ m_g(\text{Torus}) \approx -33,04 Kgr \]

That means:

\[ |-33,04 Kgr| + |1,96 Kgr| = 35 Kgr \]
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, etc).

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:

\[
m_g(Torus) + m_{Load} = m_{Load} + 1,96Kgr - 2 \cdot 1,96Kgr \sqrt{1 + 2 \cdot 21 \cdot 10^{-7} \cdot I_0^4} - 1
\]

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

\[
m_g(System G) = 35Kgr - 2 \cdot 1,96Kgr \sqrt{1 + 2 \cdot 21 \cdot 10^{-7} \cdot I_0^4} - 1
\]

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:

\[
P_r = \frac{I_o^2}{2} \cdot R_r , \text{ where } R_r = 0,115OHM, \text{ then}
\]

\[P_r \approx 1208,10 \text{ Watt}\]

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:

\[I_o \approx 237,38 \text{ A and } P_r \approx 3240 \text{ Watt}\]
CALCULATION FOR THE USED TRANSFORMER

Professor Aquino, used the following true parameters:

\[ \frac{n_1}{n_2} = \frac{12}{2} \quad \text{Primary turns} \]
\[ n_1 = 12 \quad \text{Primary turns} \]
\[ n_2 = 2 \quad \text{Secondary turns} \]

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

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

and \[ 11500VA = \frac{U_2^2}{Z_2} \Rightarrow Z_2 \approx 0,115 \text{OHM} \]

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:

\[ Z_{\text{sec}} = R_{\text{Load}} \Rightarrow Z_2 = R_r \approx 0,115 \text{OHM or 115mOHM} \]

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

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

Maximum Power, where can be delivered to the Antenna:

\[ P_r = I_r^2 \cdot R_r \Rightarrow 158,44^2 \cdot 0,115 = 2886 \text{ Watt} \]

then \[ P_r \approx 2886 \text{ Watt}_{\text{rms}} \]

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.

\[ k = \frac{1208,10}{2886} \cdot 100 = 41,86\% \text{ used Power} \]
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 Relative 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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