

## The magnetron (monopole) in the interaction between the electron and proton

We start from the supposition that all the fundamental particles: proton, electron, neutron, photon, magnetron, thermal particle, and phonon interact with  $\tau$  neutrino and receive a constant amount of energy when colliding with  $\tau$  neutrino, increasing energy for every predetermined period of around  $\sim 6 \cdot 10^{-11}$  sec. For a Hydrogen atom at room temperature, 1 S orbital, there is a reaction that an electron collides with a  $\tau$  neutrino, as in the equation below, where mag is an abbreviation for magnetron:

$$e + \left[ \tau \xrightarrow{trans} e + \pi^+ + \pi^- + 2\mu \right] + \Delta E \quad (1)$$

And  $\tau$  neutrino will collide with a proton, generating the process of continuous migration of protons into neutrons, generating gravity magnetism ( $\pi^+$ ,  $\pi^-$ ) and the  $\mu$  neutrino that generates the hologram of space:

$$p + \left[ \tau \xrightarrow{transf} n + \nu \right] + \pi^+ + \mu \left[ \xrightarrow{decay} (p + e + \nu) \right] + \left[ \pi^- + \pi^+ = p + (e + \pi^+) = p + \mu + \Delta E \right] \quad (2)$$

In the nucleus Hydrogen atom, where the magnetron is the monopole  $\pi^+$  &  $\pi^-$ .

*Every  $6,22 \cdot 10^{-11}$  sec, the electron charge is changing, forming a dipole and rearranging charge in the atom, thus forming a pair of  $\pi^+$  and  $\pi^-$  exchanging charge between the electron and the proton.*

In equation (1), introducing the rest mass  $e$  and  $\mu$ , we obtain that the magnetron, which is a monopole, has a rest mass of  $0.007eV/c^2$ . Thus, the magnetron I make the supposition magnetron is a pion with a lower rest mass, thus a meson  $\pi^+$  with a rest mass of  $1.369 \cdot 10^{-8}$  smaller than the electron mass. The electron responds with a meson  $\pi^-$  for the reaction with proton responds with  $\pi^+$  in the magnetic bound.

<http://www.michaelvio.byethost8.com/ElecFall.pdf>

The Dirac Quantization Condition implies that the elementary magnetic charge:  $\pi^- = \frac{h}{2e}$  where  $e$  is the electron's electric charge ( $\pi^+$ ,  $\pi^- = +/- 3.291059786 \cdot 10^{-16}$  Tesla  $\cdot$  m<sup>2</sup> = Weber). With the energy of the magnetron  $E = B^2/2\mu_0$  where  $\mu = 4\pi \cdot 10^{-7}$  is the vacuum permittivity. The magnetic flux density of the magnetron RadioFrequency is  $B_m = \frac{\mu_{Bm}h}{8\pi^2 e r_m^2}$  Where  $\mu_{Bm} = \mu_B \cdot 1.913/1838$  with  $\mu_B$  the Bohr magneton and  $h$  is

Planck's constant. The magnetic field of the magnetron Radiofrequency (monopole) is  $\Rightarrow 3.855 \cdot 10^{-18}$  Tesla & the radius of the magnetron  $r_m \sim 1.169 \cdot 10^{-14}$  m with a rest mass of  $0.007eV/c^2$ .

The magnetic flux density of the magnetron<sub>microwave</sub> is  $B_m = 3.851 \cdot 10^{-18}$  Tesla. This is because the ratio between the top and bottom cover is half the induction for the surface of the sphere, more precisely ( $4 \cdot \pi \cdot r^2 \Rightarrow 2 \cdot \pi \cdot r^2$ ). The electric charge of the monopole (Radio & Microwave) is the same =  $h/(2e)$ , but the induction flux for the surface of the cylinder or radius  $r_b$ , top and bottom cover is almost half the induction for the surface of the sphere, thus the  $B_{mw} = 6.713 \cdot 10^{-18}$  Tesla.

Thus, we have all the elements for detecting the magnetron best to have a foldable antenna loop that can be stretched to line with 0 surfaces and remodeled into a circular surface of 1 m<sup>2</sup> and measure a low intensity of magnetron of a coil, counting the number of monopoles from the Sun in a shielded from radiation place (in cosmic space). Ultra-low-noise SQUIDS have achieved sensitivities approaching 1 aT (atto-Tesla) =  $10^{-18}$ T in laboratory conditions, detecting monopoles one by one. The only obstacle is that there are usually billions of monopoles in the magnetic field created by a coil.

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For Einstein-Planck's equation for monopole Radiofrequency,  $h_{me} = 5.663809031 \cdot 10^{-9} eV \cdot s$  we start with the energy of the electromagnetic field  $B^2/2\mu$  and the quanta energy of the monopole Radiofrequency with cylindrical symmetry  $E = h_m \cdot \nu$  with Planck "constant" depending on frequency  $\sim 2Khz \div 18Ghz$   $h_m = h(\nu)$  so:

$$E_m = diff \left( T_q \cdot 8 \cdot \pi^2 \cdot \nu^2 \cdot \frac{h\nu}{e^{h\nu \left( \frac{2\mu_0}{B^2} \right) r_{b-1}^3}}, \nu \right) \quad (3)$$

For Einstein-Planck's equation for monopole microwave, we start with the energy of the electromagnetic field  $B^2/2\mu$  and the quanta energy of the monopole microwave with spherical symmetry  $E = h_{mw} \cdot \nu$  with Planck "constant" depending on frequency  $\sim 6\text{GHz} \div 5.85\text{Thz}$   $h_m = h(\nu)$  so:  $h_{mw} \sim 4.46 \cdot 10^{-11} \text{ eV} \cdot \text{s}$  and  $\Rightarrow$

$$E_{mw} = \text{diff} \left( \frac{4 \cdot T_q \cdot 8 \cdot \pi^2 \cdot \nu^2}{3} \frac{h \cdot \nu}{e^{h\nu \left( \frac{2\mu_0}{B^2} \right) \cdot r_b^3 - 1}}, \nu \right) \quad (4)$$

Consider a point charge  $q = \frac{h}{2\pi\epsilon}$  (with  $h = R$ ) located at the center of both the cylinder and the sphere. Here,  $R$  is the radius, the cylinder has height  $h = R$ , and  $\epsilon$  is the permittivity (assumed to be  $\epsilon_0$  in vacuum).

By Gauss's law, the **total electric flux** through the closed surface of the sphere of radius  $R$  is:

$$\Phi_{\text{sphere}} = \frac{q}{\epsilon} = \frac{h}{2\pi\epsilon^2} = \frac{R}{2\pi\epsilon^2}.$$

For the **cylinder** (radius  $R$ , height  $h = R$ ), the flux through the **two end caps** (bases) is calculated using the solid angle subtended by the caps at the charge (located at the midpoint of the axis). The distance from the charge to each end cap is  $d = h/2 = R/2$ . The solid angle subtended by one circular end cap (disc of radius  $R$  at axial distance  $d = R/2$ ) is:

$$\Omega_1 = 2\pi \left( 1 - \frac{d}{\sqrt{d^2 + R^2}} \right) = 2\pi \left( 1 - \frac{R/2}{\sqrt{(R/2)^2 + R^2}} \right) = 2\pi \left( 1 - \frac{1}{\sqrt{5}} \right).$$

For both end caps (symmetric):

$$\Omega_{\text{total caps}} = 2\Omega_1 = 4\pi \left( 1 - \frac{1}{\sqrt{5}} \right).$$

The flux through the two end caps is:

$$\Phi_{\text{cylinder ends}} = \frac{q}{4\pi\epsilon} \cdot \Omega_{\text{total caps}} = \frac{q}{\epsilon} \left( 1 - \frac{1}{\sqrt{5}} \right) = \frac{R}{2\pi\epsilon^2} \left( 1 - \frac{1}{\sqrt{5}} \right).$$

*The ratio of the flux through the cylinder's end caps to the flux through the sphere is:*

$$\frac{\Phi_{\text{cylinder ends}}}{\Phi_{\text{sphere}}} = 1 - \frac{1}{\sqrt{5}}.$$

Numerically,  $\sqrt{5} \approx 2.236$ , so  $1 - 1/\sqrt{5} \approx 0.5528$  (or exactly  $(\sqrt{5} - 1)/\sqrt{5}$ ).

This assumes the flux is the electric flux due to the enclosed charge, and the lateral surface of the cylinder contributes the remaining flux.  $1.741439528 \cdot B_m = B_{mw}$

It's quite likely that the microwave monopole has a gravitational toroidal topology, and the radiofrequency monopole has a light toroidal topology. See the informational quark table below and the paper of J.G. Williamson and Glasgow University, Department of Electronics & Electrical Engineering, Glasgow, Scotland, and M.B. van der Mark Philips Research Laboratories, Prof. Holstlaan 4, Eindhoven, The Netherlands.

<http://www.michaelvio.byethost8.com/MARK.TEX2.pdf>

Particle:	Property: Quark:	Mass Bottom	Mag. Field Down	ElectCharg eStrange	Gravity Charm	Light Up	Time Top
Monopole <sub>M</sub> ( $\pi, \pi^+$ )		0	(+/-)2.793	0	0	1	1
Monopole <sub>MW</sub> ( $\pi, \pi^+$ )		0	(+/-)2.793	0	1	0	1

<http://www.michaelvio.byethost8.com/grating.pdf>

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