Comprehensive

Gravity Control

by

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The

Kinetic Quantum Theory of Gravity

predicts that the *weight* can be controlled by means of specific electromagnetic processes.

The most simple process can be observed when an *alternating electric current* passes through a *ferromagnetic wire* .

It was observed a *strong* decreasing in the weight of a mumetal wire when an electric current with extremely-low frequency passes through it. We have summarized in some slides the presentation of a general process for gravity control based on this recent discovery. This phenomenon is absolutely new and unprecedented in the literature and it leads to novel concepts for

Transportation, Communications and Energy Generation Systems.

Starting from Eq.(59) of *Kinetic Quantum Theory of Gravity* we can easily deduce the following equation

$$\vec{P} = m_g \vec{g} =$$
$$= \left\{1 - 2\left[\sqrt{1 + \left(i_0^4 \mu / 64\pi^3 c^2 \rho^2 S^4 f^3 \sigma\right)\sin^4 2\pi f t} - 1\right]\right\} m_i \vec{g}$$

which shows that ***the weight*** P ***of a conductor decreases when an alternating electric current passes through it***. In this equation i_0 refers to amplitude of the electric current; $\mu = \mu_r \mu_0$ is the magnetic permeability of the conductor; c is the speed of light; ρ is the density (kg/m^3) of the conductor; S is the area of the cross section(m^2) of the conductor; σ is the electric conductivity of the conductor (S/m); m_i the *inertial mass* of the conductor (Kg); $g = 9.8 m/s^2$ and f is the frequency of the electric current (Hz);

The terms S^4 and f^3 into equation above show that the weight reduction can be observed in ***thin wires*** of several materials subjected to ***electric currents with extremely-low frequency* (ELF).**

However, the *relative* magnetic permeability of the conductor μ_r is also relevant since it can be greater than 100,000 in the case of ferromagnetic materials like Mumetal, Supermalloy, etc. One can easily find ***Mumetal thin wires*** with diameter down to 0.005" , for this reason we will select this kind of ferromagnetic wire.

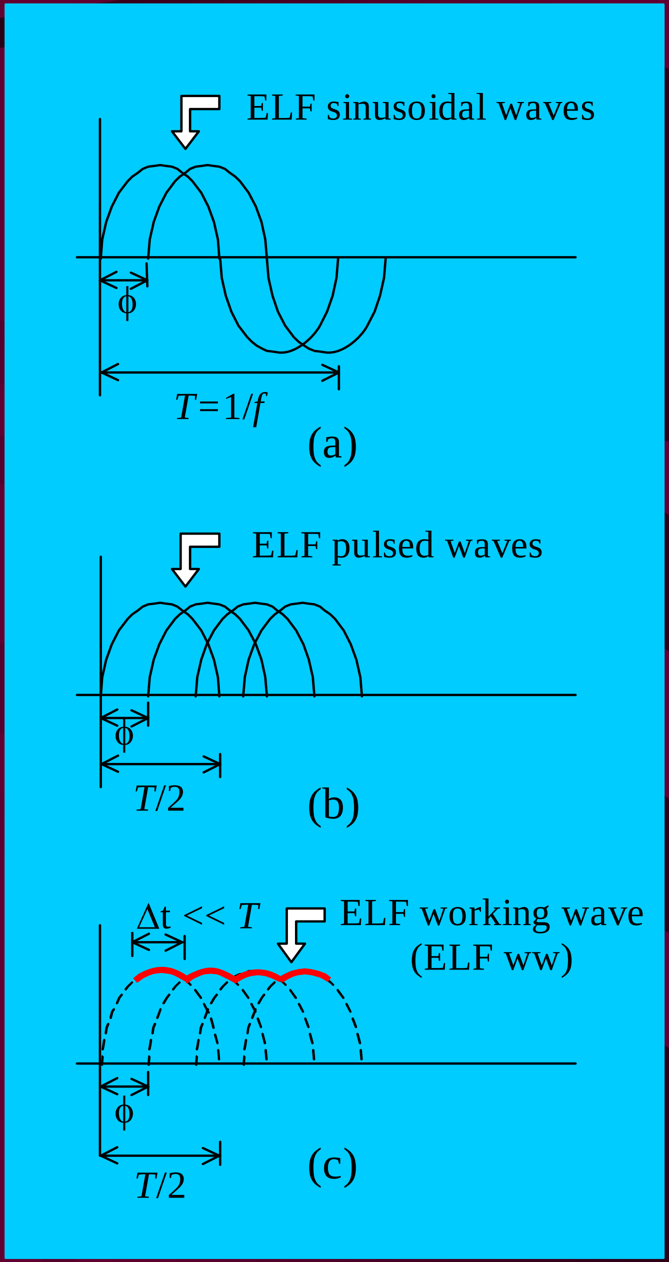
Then consider a ***Mumetal thin wire*** with the following specifications: diameter = 0.005" = 0.127mm (S = 1.27E-08 m2); ρ = 8740 Kg/m3; σ = 1.9E+06 S/m; μ_r = 100,000. Substitution of these values into the equation of $\vec{P}$ gives

$$\vec{P} = m_g \vec{g} =$$
$$= \left\{1 - 2\left[\sqrt{1 + 1.86 \times 10^{-4}\left(i_0^4 / f^3\right)\sin^4 2\pi ft} - 1\right]\right\} m_i \vec{g}$$

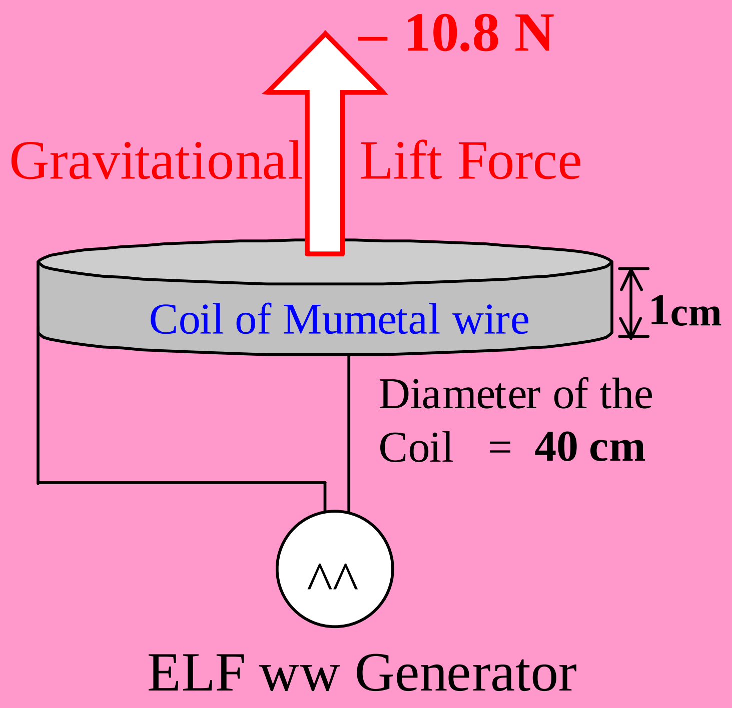
Now observe that if $f = 10m\text{Hz} = \mathbf{0.01Hz}$, for example, the weight of the wire becomes ***negative*** when $\boldsymbol{i_0} > \mathbf{0.286\ A}$, at $2\pi ft = \pi/2$, i.e., at t **= 25s**. For $\boldsymbol{i_0}$ **= 0.36 A,** the weight of the wire becomes equal to $-\boldsymbol{m_i g}$ **(total inversion of the weight).** The maximum working current this mumetal wire can withstand is **0.5 A**. The fusion of the wire occurs at ~**2 A**.

Note that the period of the 10mHz wave is very long (~100 seconds), but we can digitize the top of the wave to produce an ELF working wave which is more adequate for practical use.

By digitizing the top of the ELF waves, as shown in the figure beside, we may produce a ELF *working wave*, which obviously becomes much more adequate for practical use in Gravity Control.



Gravitational Lift Force



Consider a **coil of mumetal wire.** The diameter of the wire is 0.005” = 0.127mm (S = 1.27E-08 m2); ρ = 8740 Kg/m3; σ = 1.9E+06 S/m; μ_r = 100,000. The *total* length of the wire is 10,000m and its ***inertial mass*** is 1.1Kg. Through the wire passes an ELF ***working current*** with (tops) frequency $f = 10\ mHz$; the amplitude is $i_o = 0.36\ A$.

Substitution of these values into equation of $\boldsymbol{P}$ shows that the weight of the coil is ***totally inverted***, i.e., when the current passes through the coil the weight of the coil becomes equal to

$$P = -m_i g = -(1.1)(9.8) = -10.8\ \mathrm{N}$$

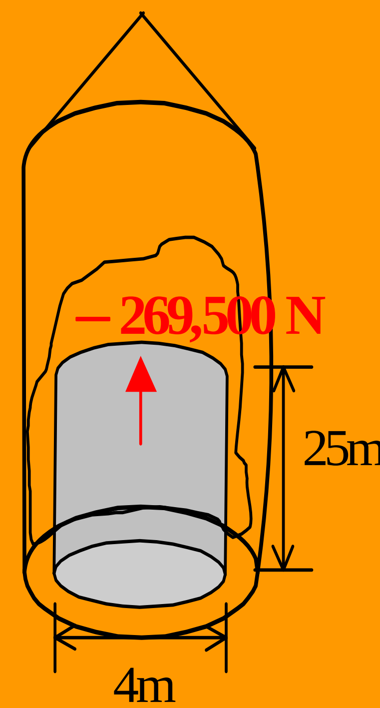
Note the dimensions of the Coil

Rocket Motor

We can increase the gravitational lift force simply by *increasing the diameter of the wire or its length, or by increasing the number of coils*. Increasing the diameter of the wire 5 times and making the number of coils = 1000 the inertial mass of the *Rocket Motor* will be M_{RM} = – 1.1Kg × 25 × 1000 = – 27,500 Kg and consequently it produces P_{RM} = – 27,500 × 9.8 = **– 269,5kN of thrust**. Note that to increase 5 times the diameter of the wire we must also increase 25 times the value of i_0 (see Equation of ***P***). Thus i_0 *must be increased to 9A.*

If P_{RM} = - 269,500 N and the mass of the rocket M = 2,5 tons (without the mass of the thruster) then the acceleration of the rocket will be :

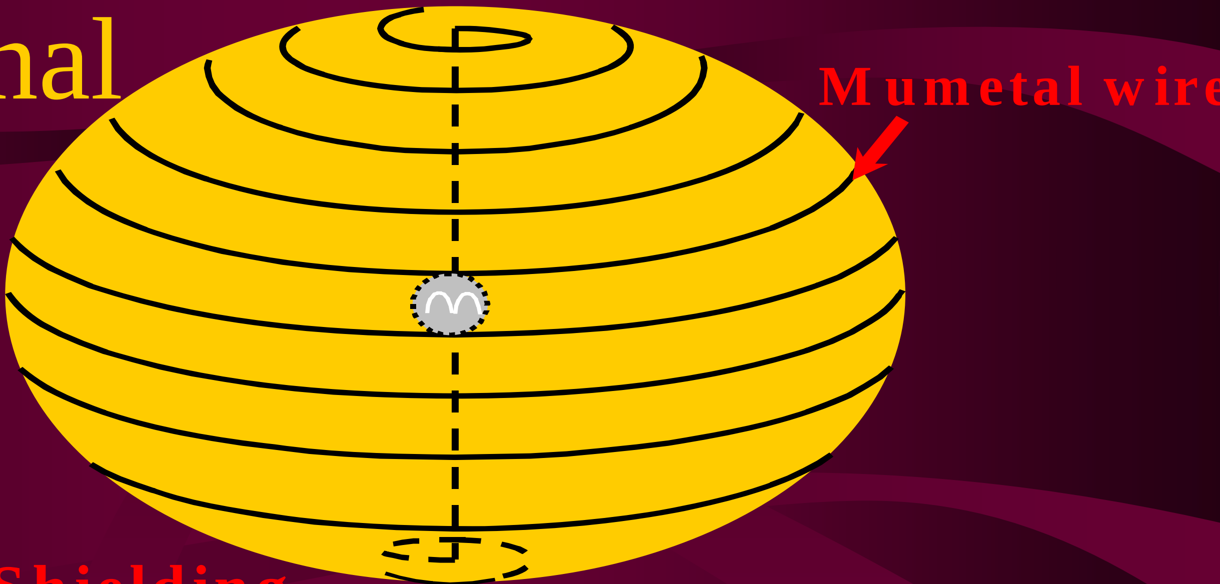
a = (-269,5kN + +24,5kN)/(2,5tons) = - 98 m/s^2. Thus, at t = 10s the speed of the rocket will be V = 980m/s = 3,528 Km/h



Next we will see that the size of the rocket motor can be strongly reduced using

Gravitational Shielding.

Gravitational Shielding



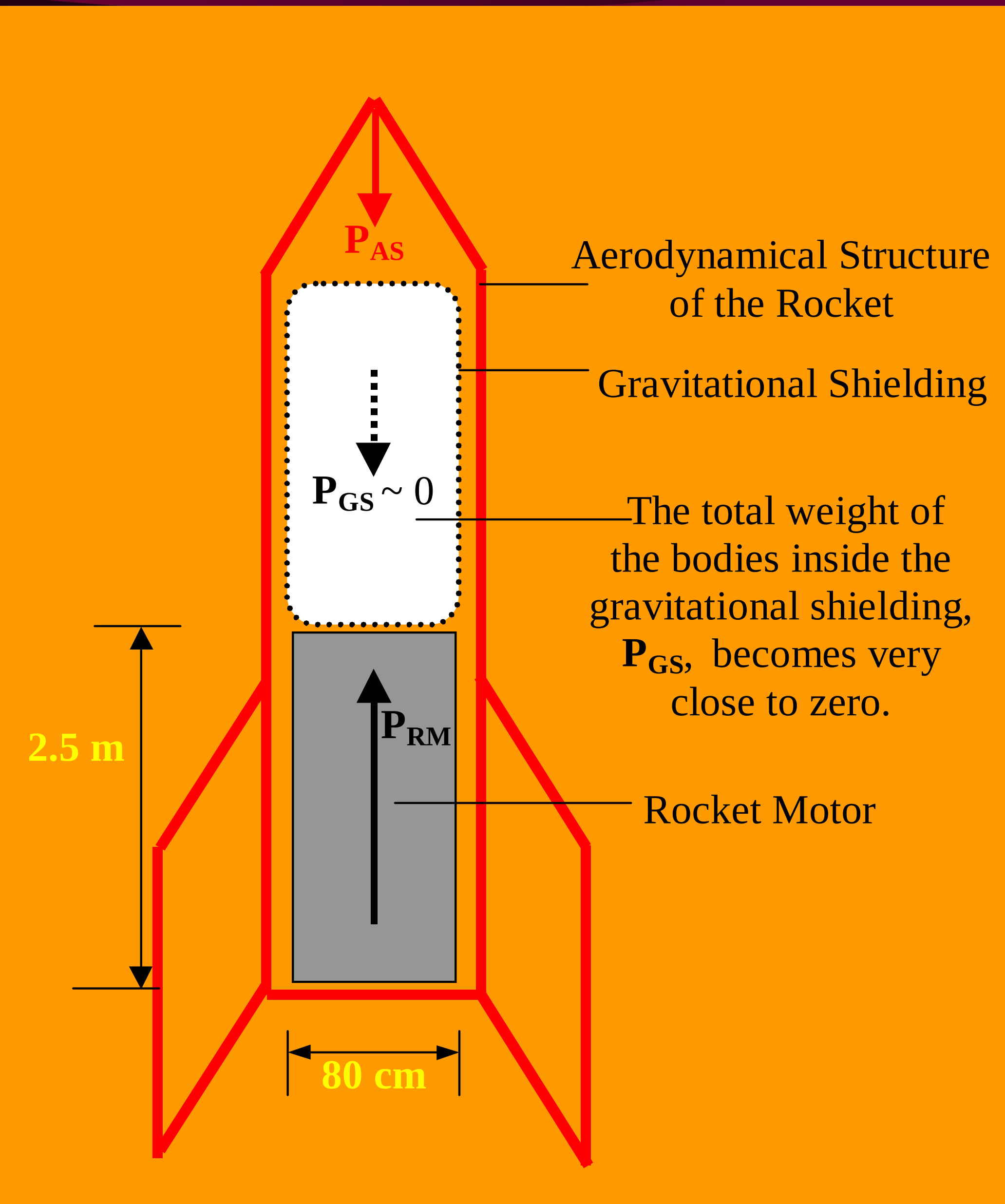
Gravitational Shielding

The figure above show how to build a gravitational shielding using the mumetal wire. From equation of ***P*** we see that the *gravitational mass* of a ***Mumetal thin wire*** (previous specifications) is given by

$$m_g = \left\{1 - 2\left[\sqrt{1 + 1.86\times10^{-4}\left(i_0^4 / f^3\right)\sin^4 2\pi ft} - 1\right]\right\} m_i$$

Then if f = **0.01Hz**, for example, the *gravitational mass* of the wire becomes approximately *null* when $\boldsymbol{i_0}$ **= 0.286 A**, at $2\pi ft = \pi/2$. Thus the ELF ww generator produces this ELF electric current that passes through mumetal wire changing its weight for a value very close to zero. Consequently, the gravitational interaction between everything inside the gravitational shielding and the rest of the Universe will also be reduced to a value very close to zero.

Rocket with Gravitational Shielding



$P_{AS} = \mathbf{M}_{AS}\, g \qquad (\mathbf{M}_{AS} > 0)$

$P_{GS} = \mathbf{M}_{GS}\, g \sim 0 \qquad (\mathbf{M}_{GS} > 0)$

$P_{RM} = \mathbf{M}_{RM}\, g \qquad (\mathbf{M}_{RM} < 0)$

The acceleration of the rocket will be:

$$a = (P_{AS} + P_{GS} - P_{RM}) \,/\, \mathbf{M}_{AS}$$

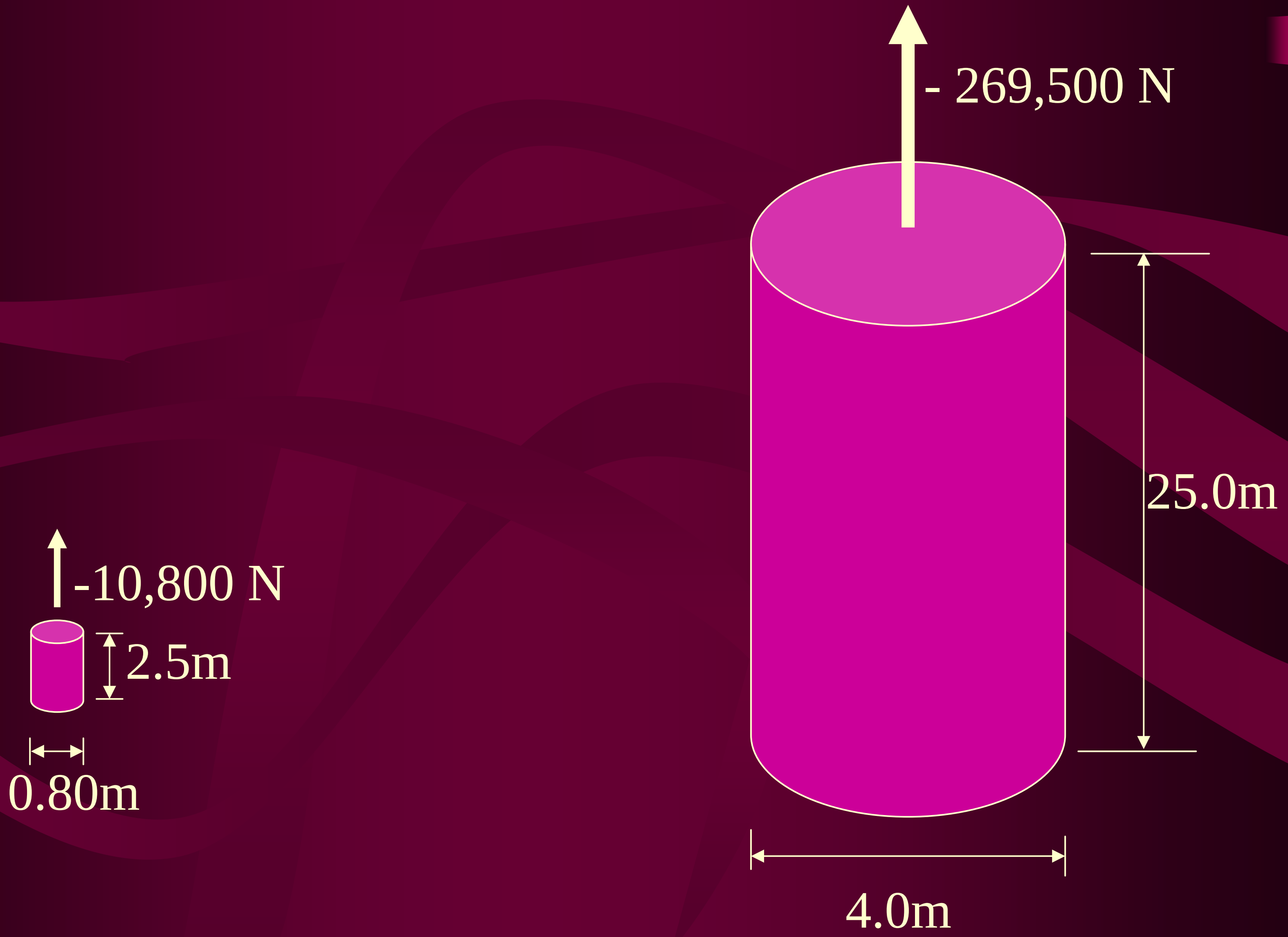
If $P_{RM} = 10{,}800\text{N}$ and $\mathbf{M}_{AS} = 150\text{Kg}$

then $a \cong 62.2\ \text{m/s}^2$. At $t = 10\text{s}$ the speed will be **V = 2,239.2 Km/h**

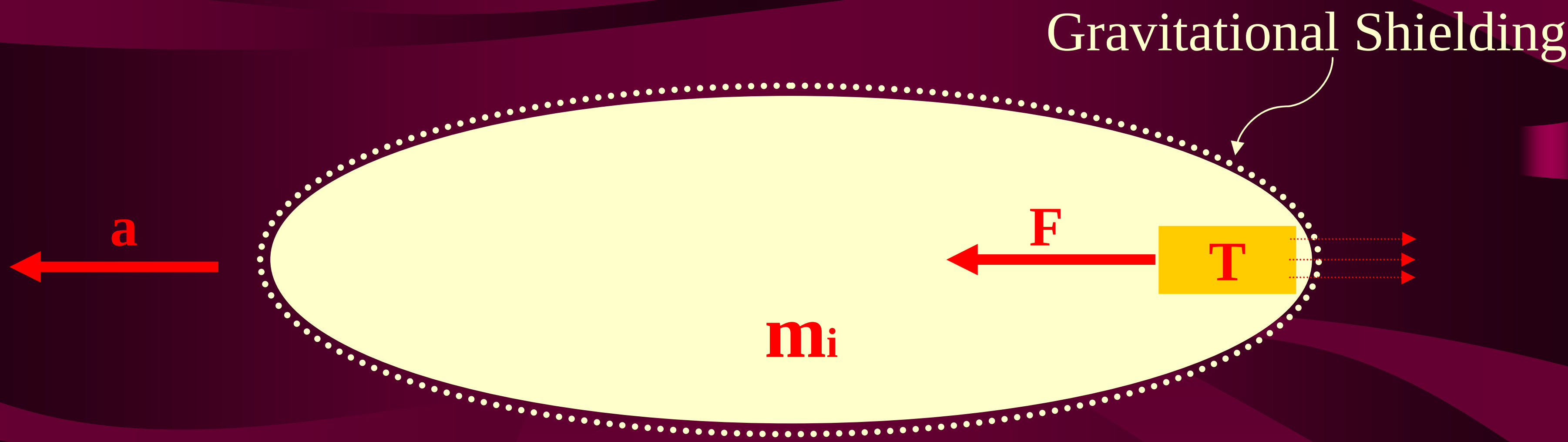
Note that the speed does not depend on the total inertial mass within the shield. It can have **several tons** , for example.

Note the size of the motor has been strongly reduced

The dimensions of the Rocket Motor
(Rocket with and without Gravitational Shielding)



Gravitational Spacecraft



As we have seen the *sphere* or the *ellipsoid* are the ideal shapes for the gravitational shielding. However from the Aerodynamical viewpoint the ***ellipsoid*** is more suitable. Thus we will give the ***ellipsoidal shape*** for the Gravitational Spacecraft.

m_i is the inertial mass of the spacecraft

According to Eq.6 of ***Kinetic Quantum Theory of Gravity*** the *non-relativistic* expression for *inertial forces* is now given by

$$F = m_g a$$

Only in the particular case of $m_g = m_i$ the expression above reduces to the well-known Newtonian expression $F = m_i a$. Thus, the **acceleration of the spacecraft** will be $a = F/ m_g$. We have seen that m_g can be strongly reduced by means of the gravitational shielding (independently of m_i).

Let us consider that in the beginning $m_g = m_i$ **=30,000Kg** and that when the shielding is actived m_g is reduced to 1 Kg. The thruster provides a small thrust of F = 100N then the spacecraft acquires an acceleration $a = F/ m_g$= 100N / 1Kg =100m/s2 . Therefore at t = 10s it reaches

V = 3600Km/h.

Note that the spacecraft will be transporting m_i **= 30,000 Kg with this speed.**

Gravitational Spacecraft
= *Inertial Properties* =

Due to the shielding the gravitational mass of the spacecraft, $\mathbf{m_g}$, can be strongly reduced and consequently the gravitational interaction between the spacecraft and the rest of the Universe will also be strongly reduced.

The new *non-relativistic* expression for *inertial forces*, $\mathbf{F = m_g\, a}$, shows that ***inertial forces upon the spacecraft*** will also be strongly reduced. This means that the spacecraft will have its ***inertial properties*** strongly reduced, i.e, <u>the inertial effects upon the crew of the spacecraft will practically disappear</u>.

Rotational Gravitational Motor

The Rotor of the Motor

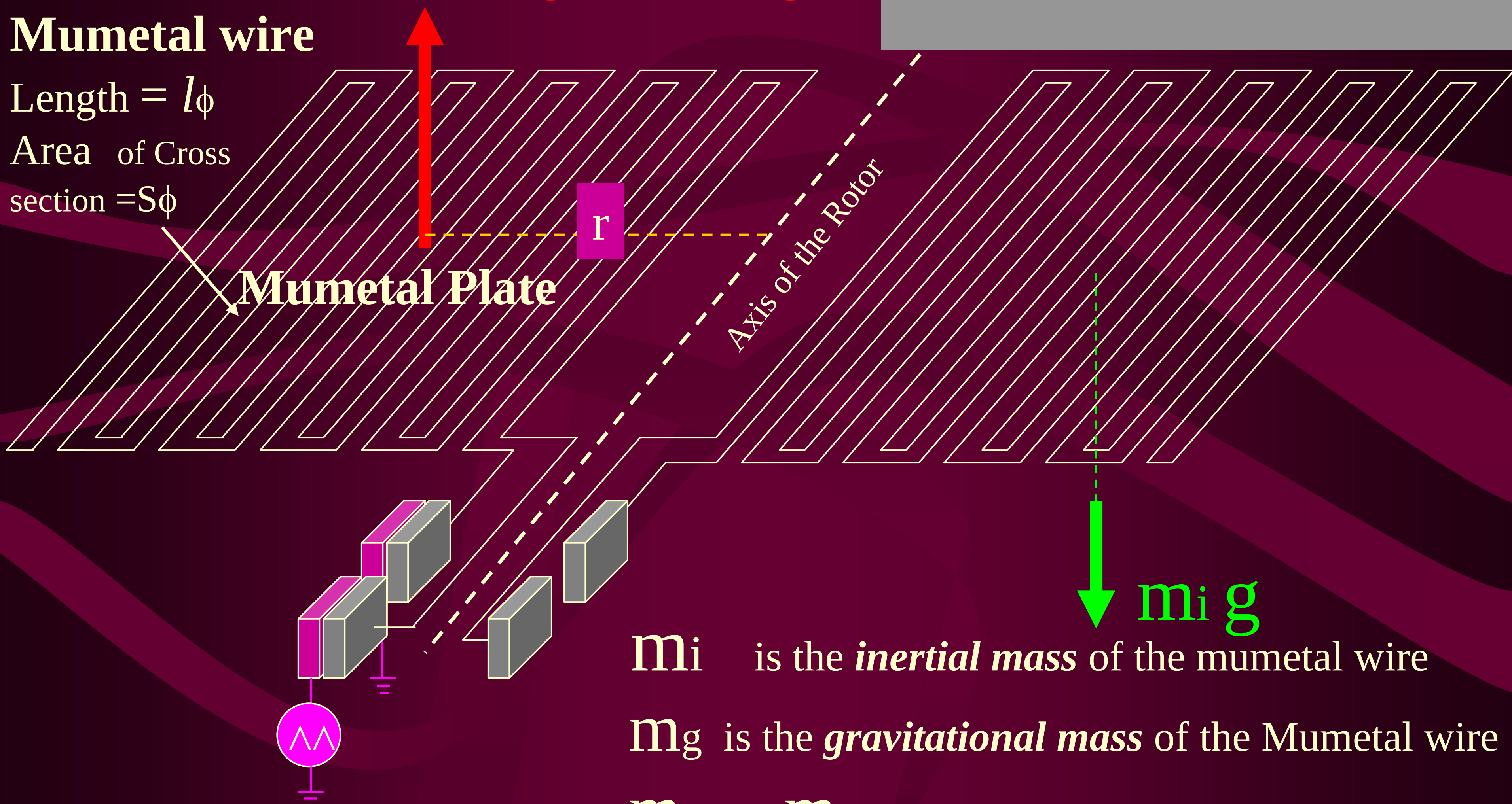
$$\alpha = \left\{1 - 2\left[\sqrt{1 + 1.86\times10^{-4}\left(i_0^4 / f^3\right)} - 1\right]\right\}$$

$F = m_g\, g = \alpha\, m_i\, g$

Mumetal wire

Length = l_ϕ

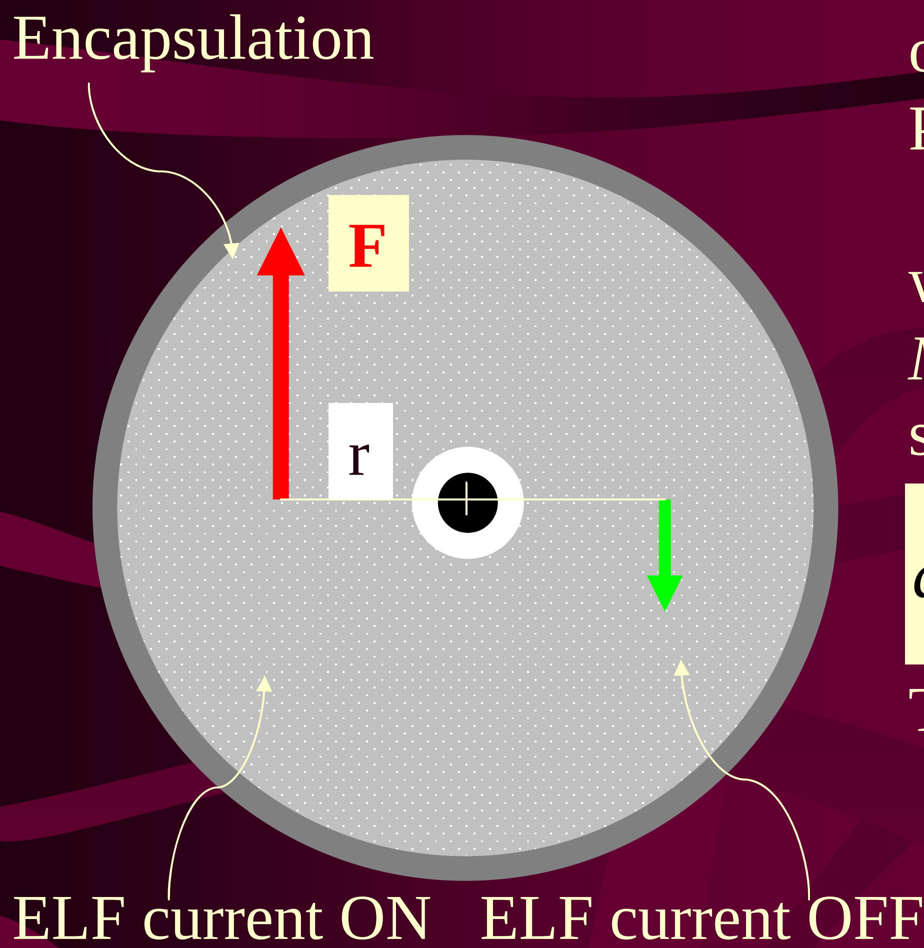
Area of Cross section = S_ϕ



m_i is the ***inertial mass*** of the mumetal wire

m_g is the ***gravitational mass*** of the Mumetal wire

$m_g = \alpha\, m_i$



The average mechanical **power** P of the Motor will be

P =T ω= (n F r) ω = n (α mi g) r ω =

= n α (Sϕ × *l*ϕ × ρ) g r ω

where <u>n</u> is the number of *Mumetal Plates* and <u>ω</u> the angular speed.

$$a = \omega^2 r \qquad a = -\alpha\, g \rightarrow \omega = \sqrt{\frac{\alpha g}{r}}$$

Thus the expression of P reduces to

$$P = n\left(S_\phi l_\phi \rho\right)\sqrt{\alpha^3 g^3 r}$$

For n = 200, α =10, Sϕ =3E-07 m2, *l*ϕ = 200m, ρ = 8740 Kg/m3, g= = 9.8m/s2 and **r = 0.20m**we obtain

P = 45,503.7 W ≅ **61 HP**.

Dimensions of the Rotor: (70cm diameter;100cm length)

Quantum Gravitational Antennas

(Mumetal ELF Antennas)

On the whole an antenna is simply a wire, of length z_0, conducting an oscillating current. Consider a ***Mumetal wire*** of length z_0 in which passes a ELF electric current $i_e = i_0 \sin \omega t = i_0 \sin 2\pi f t$. According to Eq. 59 of *Kinetic Quantum Theory of Gravity* the ***gravitational mass***, m_g, of the Mumetal antenna is given by

$$m_g = \left\{1 - 2\left[\sqrt{1 + \left(i_e^4 \mu / 64\pi^3 c^2 \rho^2 S^4 f^3 \sigma\right)\sin^4 2\pi f t} - 1\right]\right\} m_i$$

where ρ, μ, σ and S are respectively the density, the magnetic permeability, the electric conductivity and the area of the antenna cross section.

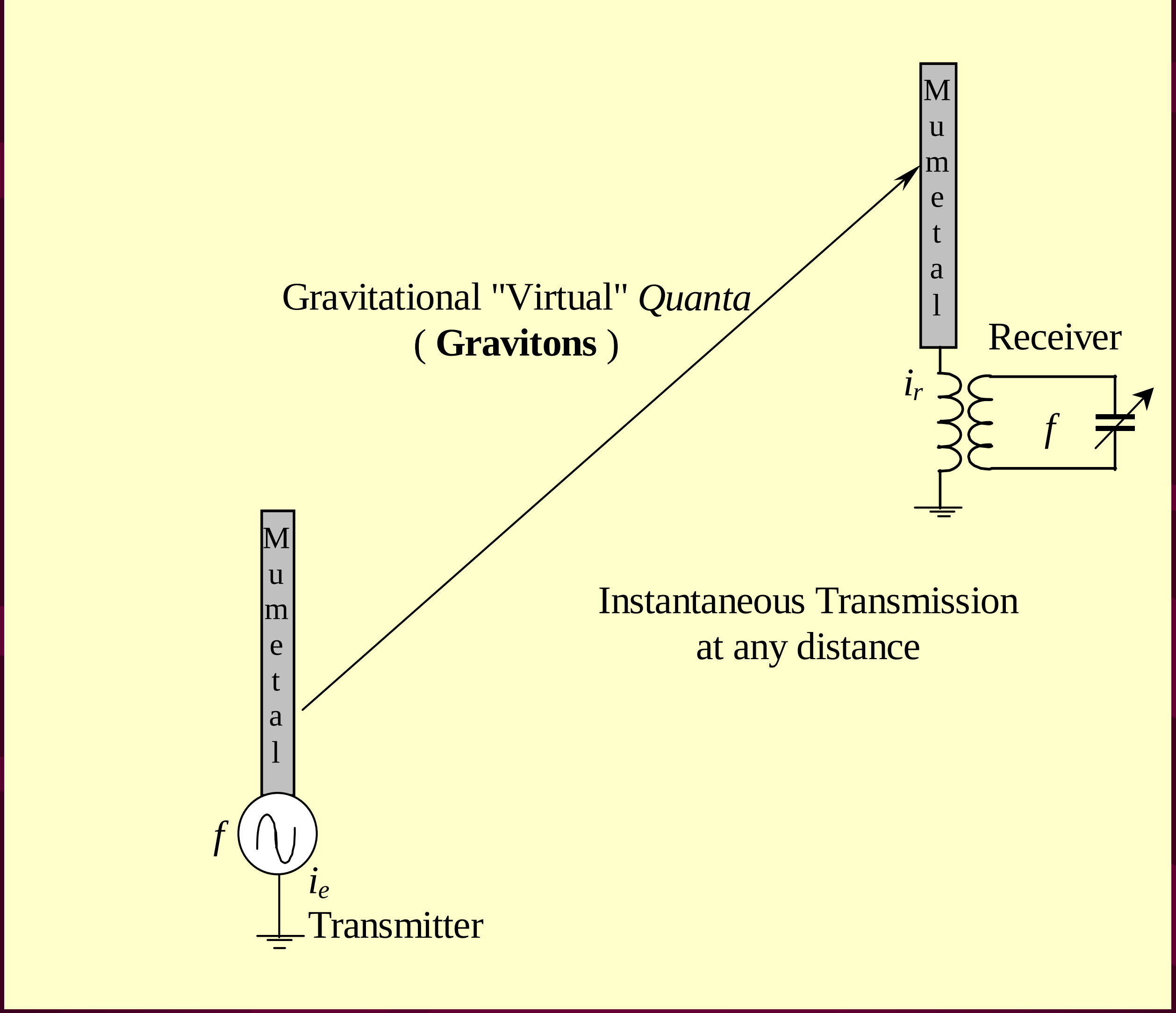
This equation shows that the ELF electric current yields a ***oscillation in the gravitational mass of the antenna.***

It is known that the ***gravitational interaction*** is <u>*instantaneously*</u> communicated to all the particles of the Universe, by means of *gravitational* "virtual" *quanta.* Then speed of these *gravitational* "virtual" *quanta* must be *infinite*.

Therefore when the gravitational mass of the Mumetal antenna changes, the changes ripple outwards through spacetime with *infinite speed* and the changes will be detected *instantaneously* by all particles of the Universe, i.e., the gravitational "virtual" *quanta* emitted from the antenna will instantaneously reach all particles.

When a particle absorbs photons, the *momentum* of each photon is transferred to particle and, in accordance with Eq.41, the *gravitational mass* of the particle is altered. Similarly to the photons the gravitational "virtual" *quanta* have null mass and *momentum*. Therefore the gravitational masses of the particles are also altered by the absorption of gravitational "virtual" *quanta*.

If the gravitational "virtual" *quanta* are emitted by an antenna (like a Mumetal antenna) and absorbed by a similar antenna, tuned to the same frequency , the changes on the gravitational mass of the receiving antenna, in accordance with the *principle of resonance*, will be similar to changes on the transmitting antenna. Consequently the ***induced current*** through the receiving antenna will be *similar to the current through the transmitting antenna*.



The scattering of the gravitational "virtual" radiation is ***null***. Therefore the intensity of the radiation emitted from the antenna is not relevant like in the case of the electromagnetic radiation. Consequently the gravitational "virtual" radiation or *gravitational "virtual"waves* would be very a suitable as a means of transmitting information at any distances including ***astronomical distances***.