Transforming a Quantum Controller of Gravity into a Gravitational Spacecraft

by

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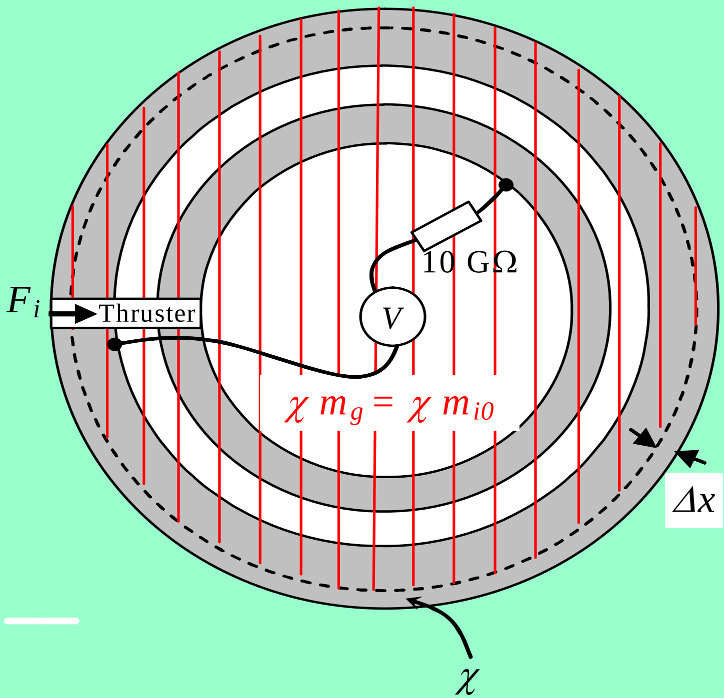

Fig.1 – A Quantum Controller of Gravity transformed into a Spacecraft.

Consider the Quantum Controller of Gravity (QCG) shown in Fig. 4 of reference [1]. Here, Fig.1 shows it transformed into a spacecraft. It was shown that in the region hatched in red on Fig.1 we have $m'_g = \chi m_g$, where χ is given by

$$\chi = \frac{m_{g(\Delta x)}}{m_{i0(\Delta x)}} = \left\{1 - 2\left[\sqrt{1 + 2.64\times10^{-3}V} - 1\right]\right\} \qquad (1)$$

Thus, the gravitational mass of the spacecraft becomes $m'_g = \chi m_g = \chi m_{i0}$, where m_{i0} is its *inertial* mass.

Equation (6) of reference [2] shows that the spacecraft will acquires an acceleration $\vec{a}$, given by

$$\vec{a} = \frac{\vec{F}_i}{m'_g}\left(1 - \frac{v^2}{c^2}\right)^{\frac{3}{2}} = \frac{\vec{F}_i}{\chi m_{i0}}\left(1 - \frac{v^2}{c^2}\right)^{\frac{3}{2}} \qquad (2)$$

where F_i' is the thrust produced by the thruster of the spacecraft (See Fig.1). In the non-relativistic case ($v << c$), Eq. (2) reduces to

$$\vec{a} \cong \frac{\vec{F}_i}{\chi m_{i0}} \qquad (3)$$

Equation (1) shows that for $V = 473.428 volts$, we obtain $\chi \cong 1 \times 10^{-4}$. Then, if the inertial mass of the spacecraft is $m_{i0} = 10{,}000 kg$, we get

$$|\vec{a}| \cong |\vec{F}_i| \qquad (4)$$

Therefore, if $|\vec{F}_i| \cong 10{,}000 N$ (The thrust of the F-22 Raptor reaches 160,000N) then the spacecraft will acquires an acceleration

$$|\vec{a}| \cong 10{,}000 ms^{-2} \qquad (5)$$

This means that at *one* second the velocity of the spacecraft will be about 36,000km/h (Earth's circumference at the equator has about 40,000km).

The *total* energy of the spacecraft, according to Eq. (7) of reference [2], is given by

$$E_g = \frac{m_g c^2}{\sqrt{1 - v^2/c^2}} = \frac{\chi m_{i0} c^2}{\sqrt{1 - v^2/c^2}} \qquad (6)$$

and consequently, its *kinetic energy*, in the non-relativistic case, is expressed by

$$K \cong \tfrac{1}{2} \chi m_{i0} v^2 \qquad (7)$$

which is equivalent to

$$K \cong \tfrac{1}{2} m_{i0} v_{eq}^2 \qquad (8)$$

where

$$v_{eq} = v\sqrt{\chi} \qquad (9)$$

Therefore, for $\chi = 10^{-4}$ and $v = 36{,}000 km/h$, the equivalent velocity of the spacecraft is only

$$v_{eq} = 360 km/h \qquad (10)$$

This means that, despite the enormous velocity of the Gravitational Spacecraft ($v = 36{,}000\, km/h$), its surface *temperature* – due to the friction with the atmospheric air, does not increase significantly, because it becomes equivalent to the surface temperature of a conventional spacecraft, flying in atmospheric air, with only 360km/h.

References

[1] De Aquino, F. (2016) *Quantum Controller of Gravity*. https://uema.academia.edu/FranDeAquino/Papers

[2] De Aquino, F. (2010) *Mathematical Foundations of the Relativistic Theory of Quantum Gravity,* Pacific Journal of Science and Technology, **11** (1), pp. 173-232. https://hal.archives-ouvertes.fr/hal-01128520