

Torus shaped moving mass as a key for anti-gravity production

Analytical method – Gravitomagnetism

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Abstract

Massive evidence for the existence of an aether-based Newtonian gravity field, coupled with a secondary motion-dependent gravity field (a.k.a. gyrotation field), has been demonstrated by the applications with heavenly objects. The secondary field is demonstrated by the motion of the asteroids in the asteroid ring, the shape of super-novae, the flatness of galaxies and the rings of spinning planets, fast spinning stars, and so on.
Here, I demonstrate that a torus-shaped moving mass can create a gravity field that is opposed to our own gravity field.

Keywords. Gravitation, star: rotary, supernova, gyrotation, gravitomagnetism, spacecraft, anti-gravity
Methods : analytical

1. The Maxwell analogy for gravitation: a short history.

Several studies have been made formerly to find an analogy between the Maxwell formulas and the gravitation theory. Oliver Heaviside predicted the field in 1893. He suggested the existence of a field, as a result of the transversal time delay of gravitation waves. Further development was also made by several authors. L. Nielsen, 1972, deducted it independently using the Lorentz invariance. E. Negut, 1990 extended the Maxwell equations more generally and discovered the origin of the flatness of the planetary orbits, Oleg Jefimenko, around 2000.

This deduction follows from the gravitation law of Newton, taking into account the time delay caused by the limited speed of gravitation waves and therefore the transverse forces resulting from the relative velocity of masses. The laws can be expressed in the equations (1.1) to (1.5) below.

The formulas (1.1) to (1.5) form a coherent set of equations, similar to the Maxwell equations. Electrical charge is then substituted by mass, magnetic field by *gyrotation* (or "gravitomagnetism"), and the respective constants as well are substituted (the gravitation acceleration is written as $\boldsymbol{g}$, the so-called "gravitomagnetic field" as $\boldsymbol{\Omega}$, and the universal gravitation constant as $G^{-1} = 4\pi\ \zeta$, where G is the "universal" gravitation constant. We use sign $\Leftarrow$ instead of $=$ because the right hand of the equation induces the left hand. This sign $\Leftarrow$ will be used when we want to insist on the induction property in the equation. $\boldsymbol{F}$ is the induced force, $\boldsymbol{v}$ the velocity of mass m with density ρ.

$$\boldsymbol{F} \Leftarrow m\ (\boldsymbol{g} + \boldsymbol{v} \times \boldsymbol{\Omega}) \qquad (1.1)$$

$$\nabla \cdot \boldsymbol{g} \Leftarrow \rho / \zeta \qquad (1.2)$$

$$c^2\ \nabla\times \boldsymbol{\Omega} \Leftarrow \boldsymbol{j} / \zeta + \partial \boldsymbol{g} / \partial t \qquad (1.3)$$

where $\boldsymbol{j}$ is the flow of mass through a surface. The term $\partial\boldsymbol{g}/\partial t$ is added for the same reasons as Maxwell did: the compliance of the formula (1.3) with the equation

$$\mathrm{div}\, \boldsymbol{j} \Leftarrow - \partial\rho / \partial t$$

It is also expected

$$\mathrm{div}\ \boldsymbol{\Omega} \equiv \nabla . \boldsymbol{\Omega} = 0 \qquad (1.4)$$

and

$$\nabla\times \boldsymbol{g} \Leftarrow - \partial \boldsymbol{\Omega} / \partial t \qquad (1.5)$$

All applications of the electromagnetism can from then on be applied on *gravitomagnetism* with caution. Also it is possible to speak of gravitomagnetic waves, where

$$c^2 = 1 / (\zeta\ \tau) \qquad (1.6)$$

wherein $\tau = 4\pi G/c^2$.

2. How to find the value of the "gyrotation field"? Law of gravitational motion transfer.

In this theory the hypothesis is developed that the angular motion is transmitted by gravitation. In fact no object in space moves straight, and each motion can be seen as an angular motion.

Considering a rotary central mass m_1 spinning at a rotation velocity $\boldsymbol{\omega}$ and a mass m_2 in orbit, the *rotation transmitted by gravitation* (dimension [rad/s]) is named *gyrotation* $\boldsymbol{\Omega}$ (or, with the Newtonian gravity part included, is named *gravitomagnetism*).

Equation (1.3) can also be written in the integral form as in (2.1), and interpreted as a flux theory. It expresses that the normal component of the rotation of $\boldsymbol{\Omega}$, integrated on a surface A, is directly proportional with the flow of mass through this surface.
For a spinning sphere, the vector $\boldsymbol{\Omega}$ is solely present in one direction, and $\nabla \times \boldsymbol{\Omega}$ expresses the distribution of $\boldsymbol{\Omega}$ on the surface A. Hence, one can write:

$$\iint_{\boldsymbol{A}} (\nabla \times \boldsymbol{\Omega})_n \, d\boldsymbol{A} \Leftarrow 4\pi G \dot{m} / c^2 \tag{2.1}$$

In order to interpret this equation in a convenient way, the theorem of Stokes is used and applied to the gyrotation $\boldsymbol{\Omega}$. This theorem says that the loop integral of a vector equals the normal component of the differential operator of this vector.

$$\oint \boldsymbol{\Omega} \,.\, d\boldsymbol{l} = \iint_{\boldsymbol{A}} (\nabla \times \boldsymbol{\Omega})_n \, d\boldsymbol{A} \tag{2.2}$$

Hence, the transfer law of gravitation rotation (*gyrotation*) results in:

$$\oint \boldsymbol{\Omega} . d\boldsymbol{l} \Leftarrow 4\pi G \dot{m} / c^2 \tag{2.3}$$

This means that the movement of an object through another gravitation field causes a second field, called gyrotation.

In order to visualize this, the creation of the second field can be interpreted as follows: the (large) symmetric gravitation field can be disturbed by a (small) moving symmetric gravitation field, resulting in the polarisation of the symmetric transversal gravitation field into an asymmetric field, called gyrotation (in analogy to magnetism). The gyrotation works perpendicularly onto other moving masses. By this, the polarised (= gravitomagnetic) field expresses that the gravitation field is partly made of a force field, which is perpendicular to the gravitation force field, but which annihilate itself if no polarisation has been induced.

3. Application 1: Gyrotation of a linearly moving mass in an external gravitational field.

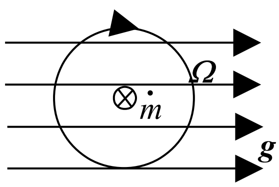
It is known from the analogy with magnetism that a moving mass in a gravitation reference frame will cause a circular gravitomagnetic field (fig. 3.1). Another mass which moves in this gravitomagnetic field will be deviated by a force, and this force works also the other way around, as shown in fig. 3.2.

The gravitomagnetic field, caused by the motion of mass m is given by (3.1) using (3.3). The equipotentials are circles:

$$2\pi R . \Omega \Leftarrow 4\pi G \dot{m} / c^2 \tag{3.1}$$

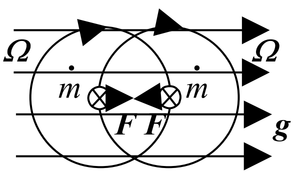
Perhaps the direction of the gravitation field is important. With electromagnetism in a wire, the direction of the (large) electric field is automatically the drawn one in fig 3.1., perpendicularly to the velocity of the electrons.

fig. 3.1



Creation of a gyrotation field about a mass flow.

fig. 3.2



Creation of gyrotation fields and Lorentz forces about two mass flows.

In this example, it is very clear how (absolute local) velocity has to be defined. It is compared with the steady gravitation field where the mass flow lays in. This application can also be extrapolated in the example below: the gyrotation of a rotating sphere.

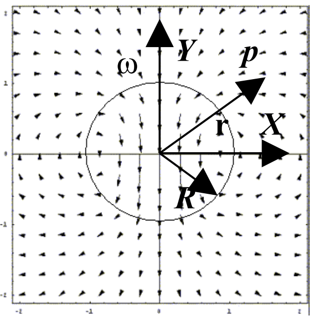
4. Application 2: Gyrotation of rotating bodies in a gravitational field.

Consider a rotating body like a sphere, angular velocity ω. We will calculate the gyrotation Ω at a certain distance from it, and inside. We consider the sphere being enveloped by a gravitation field, generated by the sphere itself, and at this condition, we can apply the analogy with the electric current in closed loop.

The approach for this calculation is similar to the one of the magnetic field generated by a magnetic dipole.

Each magnetic dipole, created by a closed loop of an infinitesimal rotating mass flow is integrated to the whole sphere. *(Reference: Richard Feynmann: Lectures on Physics)*

The results are given by equations inside the sphere and outside the sphere with radius R, at positions r :



$$\Omega_{int} \Leftarrow \frac{4\pi G\rho}{c^2}\left[\omega\left(\frac{2}{5}r^2-\frac{1}{3}R^2\right)-\frac{r\,(r\bullet\omega)}{5}\right] \qquad (4.1)$$

$$\Omega_{ext} \Leftarrow \frac{4\pi G\rho R^5}{5r^3c^2}\left(\frac{\omega}{3}-\frac{r\,(\omega\bullet r)}{5}\right) \qquad (4.2)$$

(The dot represents a scalar product of vectors)

Fig. 4.2: (Reference: Eugen Negut, www.freephysics.org)
The drawing shows equipotentials of – Ω.

For homogeny rigid masses we can replace the density by using $m = \pi R^3 \rho\, 4/3$, and so we get (4.2) transformed as follows:

$$\Omega_{ext} \Leftarrow \frac{G\,m\,R^2}{5r^3c^2}\left(\omega-\frac{3r\,(\omega\bullet r)}{r^2}\right) \qquad (4.3)$$

When we use this way of thinking, we should keep in mind that the sphere is supposed to be immersed in a steady reference gravitation field, namely the gravitation field of the sphere itself .

5. Application 3: Anti-gravity torus.

5.1. The anti-gravity device principle.

A torus with a double shell in which a liquid circulates, can provide a gravity field.
As we see with eq. (1.3), the creation of the second field (gyrotation field) occurs with the displacement of masses. Imagine a torus as in fig. 5.1., in which liquid masses flow inside a double shell.

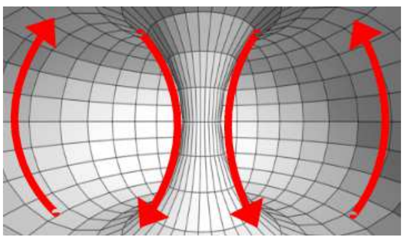


Fig. 5.1

The outer part of the torus, where the masses flow from the bottom to the top, will create a horizontal circular gyrotation field inside the torus volume. The inner part of the torus, where the masses flow from the top to the bottom, will create a horizontal circular gyrotation field inside the torus volume in an opposite direction.

As the equation (1.5) shows, a variable gyrotation field Ω will create an induced gravity field g that is perpendicular upon the gyrotation field. See fig. 5.1. and 5.2.

In other words, if we make the mass-flow in the outer part of the torus decelerating, the gravity that is created will be pointing from top to bottom. If we make the mass-flow in the inner part of the torus accelerating, the gravity that is created will also be pointing from top to bottom.
So, both parts of the torus, the outer part and the inner part will contribute to the creation of the anti-gravity field.

5.2. Detailed design of the double-shell torus.

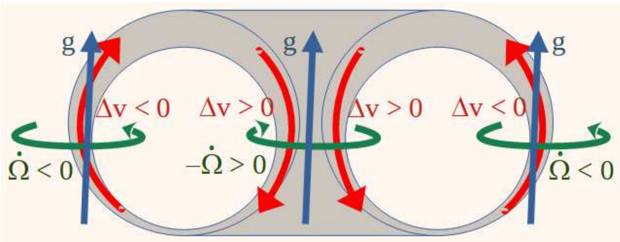


Fig. 5.2

The design principle of the outer part of the double-shell torus is to make the liquid in it decelerating, which is obtained if the volume between the shells expands during the bottom-to-top flow.
Similarly, the design principle of the inner part of the double-shell torus is to make the liquid in it accelerating, which is obtained if the volume between the shells is reduced during the top-to-bottom flow.
Of course, the volume of the outer part is by itself larger than the volume of the inner part, causing indeed a deceleration in the outer part and an acceleration in the inner part of the torus.
However, the effect can even be enhanced by a slight shift of the inner and outer torus shell, permitting a larger deceleration or acceleration of the liquid mass.

The overall design principle of the double-shell torus is represented in fig. 5.2.

6. Discussion and Conclusion.

In several sources, especially in the books that Elena Danaan and Tony Rodrigues wrote, and during interviews that were given, are mentioned the torus shape of the internals of certain spaceships, and the use of mercury, apparently red mercury, as an essential component for anti-gravity.
Part of the operation is in my opinion given by the mechanism that is explained in this paper, which relies on the theory of gravitomagnetism, and which has proven numerous properties of heavenly objects and systems such as supernovae, galaxies, and clusters.
However, I expect that a coupling with electromagnetism is required in order to get sufficient power of operation of the engine.

7. References.

1. De Mees, T., 2005, Analytic Description of Cosmic Phenomena Using the Heaviside Field, Physics Essays, Vol. 18, No. 3.

2. Negut, E., 1990, On intrinsic properties of relativistic motions, Revue Roumaine des Sciences Techniques, Serie de Mecanique Appliquee (ISSN 0035-4074), vol. 35, Mar.-Apr. 1990, p. 97-114.

3. Heaviside, O., “A Gravitational and Electromagnetic Analogy”, The Electrician, 31, 281-282 and 359, 1893

4. Jefimenko, O., “Causality, Electromagnetic Induction, and Gravitation”, Electret Scientific , 1991.

5. Wiechert E, Grundlagen der Elektrodynamik. Goettingen 1899

6. De Mees, T., On the geometry of rotary stars and black holes, General Science Journal, 2005 .

7. De Mees, T., Lectures on “A coherent dual vector field theory for gravitation”, GSJournal, 2004.

8. De Mees, T., Discussion: the Dual Gravitation Field versus the Relativity Theory, GSJournal, 2004.

9. De Mees, T., Cassini-Huygens Mission, New evidence for the Dual Field Theory for Gravitation, GSJ, 2004.

10. De Mees, T., Deduction of orbital velocities in disk galaxies, GSJournal, 2007.

11. Danaan, E., We Will Never Let You Down, 2021.

12. Rodrigues, T., Ceres Colony Cavalier, 2021.