

Electromagnetic Model of The Solar System Based on The Lorentz Equation

József Ferencz

Bolzano Utica 35/a, Budapest 10. Ker., Budapest, Hungary, 1104

Corresponding author details: József Ferencz; ferenczj@outlook.hu

ABSTRACT

The solar system can also be described with an electromagnetic model. The speed, orbital radius, and gravitational field of the planets can be given using the electric field, the magnetic field, and a new constant. The calculation results are exactly the same as the results of classical physics. There is a connection between gravity, the electric field, and the magnetic field. There is a direct connection between Newton's, Coulomb's, and Lorentz's laws. The new model of the solar system, together with the planets, operates according to Lorentz's force law. The electric charge of the Sun and the planets can be calculated. Lorentz's force law shows that gravity is created by an electric field. The operation of a velocity filter can be recognized in the solar system. The motion of the planets can be described classically, using mechanics, but it can also be described using the electric field and the magnetic field. It can also be seen that there are no two different forces. The gravitational force is identical to the electromagnetic force. Depending on which model of the Solar System we use, the result can be either a gravitational or an electromagnetic force field. In this article, we will briefly present the classical model and, in more detail, the electromagnetic model.

Keywords: solar system; gravity; Lorentz's law; Lenz's law; Newton's law; Coulomb's law; velocity filter; Kepler's third law; Maxwell; sun constant; space engine; dark energy

INTRODUCTION

Newton's and Kepler's laws describe the motion of the planets in the Solar System. This is the classical model of the Solar System. Newton and Kepler's III. law show that gravity is induced by motion, but this is hidden in Newton's law. We will open Newton's law. We will see that the gravitational constant is velocity-dependent. This is the reason why the value of G cannot be measured accurately even today. Since the value of G is velocity-dependent, so is gravity. So gravity is not only an exclusive property of mass. Gravity is induced by motion. The electromagnetic field is also induced by motion or flux change. Using the laws of Maxwell, Newton, and Coulomb, a new constant can be introduced. This constant connects gravity to the electric field and the magnetic field. Its symbol is $\sqrt{\mu_2}$. This constant has already been determined by several researchers. However, they determined it from data from the quantum world. Thus, no connection was established regarding the macro world. Roopkom et al. determined the value of $\frac{1}{\sqrt{\mu_2}}$. Called the Newton-Coulomb constant ratio. In detail. Unified Electro-Gravity Framework from Planck-Scale Symmetry [1]. Its value is: $7.424 \cdot 10^{-20} \left[\frac{A^2 s^2}{kg^2} \right]$ Which corresponds to the value of $\frac{1}{\sqrt{\mu_2}}$. But it was also determined by Christodoulou, D. M., & Kazanas, D. Introducing the Effective Gravitational Constant $4\pi\epsilon_0 G$ [2].

But Takaaki Musha and Ivanov also determined the value of $\frac{1}{\sqrt{\mu_2}}$ [3]. Newton's and Coulomb's laws are identical. Constantin Meis also established that Newton's and Coulomb's laws are identical. But his equation also includes $\frac{1}{\sqrt{\mu_2}}$. However, he also used data from the quantum world.[4]. The Solar System can be described using the electric field, the magnetic field, and $\sqrt{\mu_2}$. But it can also be described classically using mechanics. I used the following notations to describe the two models.

$$\sqrt{\mu_2} = 1.161 \cdot 10^{10} \left[\frac{Kg}{As} \right]$$

F_L =Lorentz force
 F_N = Newton force
 F_{SE} = Sun-Earth force effect
 F_{Ec} = Centripetal force acting on the Earth
 R_{Er} = Earth radius
 M_S = Sun's mass
 M_E = Earth's mass
 Q_S = Sun's charge
 Q_E = Earth's charge
 E_{SE} = Electric field between Sun and Earth
 E_E = Electric field at the Earth's surface
 B_{SE} = Magnetic induction between Sun and Earth
 a_{Ec} = Earth's centripetal acceleration
 g_E = Earth's gravity
 g_{SE} = Gravity at Sun-Earth distance

v_E = Earth speed

R_{SE} = Sun Earth distance

K_K = Kepler constant

$K_{mK} = K_K \cdot 4\pi^2 = 1.327 \cdot 10^{20} \left[\frac{m^3}{s^2} \right]$ Modified Kepler constant.

K_{mE} = Kepler modified constant for Earth

μ = Permeability

ϵ = Permittivity

A brief description of the classical solar system model

Let's use the results of physics that are accepted today. We often use Newton's law of gravity, but we don't take into account that both the Earth and the Sun are in motion. This is not shown in Newton's equation (1). Kepler's third law is necessary to prove this.

$$F = G \cdot \frac{M_S \cdot M_E}{R_{SE}^2} \tag{1}$$

Kepler's Third Law. $\frac{T_1^2}{R_1^3} = \frac{T_2^2}{R_2^3} \rightarrow \frac{R_1^3}{T_1^2} = \frac{R_2^3}{T_2^2} = K_K$

Kepler's constant modification $K_{mK} = K_K \cdot 4\pi^2 = 1,327 \cdot 10^{20} \left[\frac{m^3}{s^2} \right] \rightarrow$

$$K_{mK} = R_1 v_1^2 = R_2 v_2^2 = R_i v_i^2 \tag{2}$$

It is true for any planet around the Sun, but also for satellites.

Solar constant

$$M_S \cdot G = 1.327 \cdot 10^{20} \left[\frac{m^3}{s^2} \right] \tag{3}$$

Based on the previous formulas, the value of the gravitational constant G can be written in the following form (4). Let us check by calculation that it is a correct formula. We can arrive at the new equation for G in two ways. Using the Sun's constant and Newton's law of force.

$$M_S \cdot G = R_1 \cdot v_1^2 = R_2 \cdot v_2^2 \rightarrow G = \frac{R_i v_i^2}{M_S} \tag{4}$$

$$\frac{M_E v_E^2}{R_{SE}} = G \frac{M_S M_E}{R_{SE}^2} \rightarrow G = \frac{R_{SE} v_E^2}{M_S} \tag{5}$$

$$G = \frac{1.495978 \cdot 10^{11} \cdot 29.789^2 \cdot 10^6}{1.989 \cdot 10^{30}} = 6.67424 \cdot 10^{-11} \frac{m^3}{kg s^2}$$

The result is the currently accepted value for the gravitational constant. The value of G can be determined using data from any planet. But it can also be calculated using data from a satellite. Let's plug the formula for G into Newton's law and calculate. Using data from Earth, calculate the value of Earth's gravity.

$$g_E = G \frac{M_E}{R_E^2} \quad G = \frac{R_{SE} v_E^2}{M_S} \rightarrow g_E = \frac{R_{SE} v_E^2}{M_S} \cdot \frac{M_E}{R_E^2} \tag{6}$$

$$9.8114 \frac{m}{s^2} = \frac{1.495978 \cdot 10^{11} \cdot 29.789^2 \cdot 10^6}{1.989 \cdot 10^{30}} \cdot \frac{5.98 \cdot 10^{24}}{6.378^2 \cdot 10^{12}}$$

So, we can see where velocity is hidden in Newton's

law (6). As a consequence, gravity is velocity-dependent. G also shows how we cannot measure G accurately. The Earth's velocity and orbital radius change continuously during its orbit. Therefore, the value of G changes slightly but constantly. G cannot be considered constant, as it increases or decreases very slightly, periodically. This is clearly demonstrated by the elliptical orbits of planets. The calculation gives the correct result for any planet for its gravitational field. G shows that there is a relationship between velocity and the orbital radius of the planets in the solar system, in detail. What Is Hidden Behind the Gravitational Constant? [5].

In summary

- Gravitational force is induced by motion.
- Gravity is not an exclusive property of mass.
- G is velocity-dependent.
- The value of G is not constant.
- The equation of G gives the corresponding orbital radius for every velocity.

Electromagnetic model of the solar system

Let's ask a question. Why do we assume that the gravitational force field is related to the electric force field? If an electric charge is stationary relative to the gravitational force field, it does not create a magnetic field. If it moves relative to the gravitational force field, it generates a magnetic field. This suggests that gravity and the electric force field are related. This relationship is created by $\sqrt{\mu_2}$.

$$\sqrt{\mu_2} = 1.161 \cdot 10^{10} \left[\frac{Kg}{As} \right] \tag{7}$$

This proportionality factor creates a connection between gravity, electric field, and magnetic field. But with its help, the electric charge of the Sun and the planets can be determined. The speed of the planets, but also the gravitational field. This proportionality factor can be determined in several ways. We also saw earlier that this has already been determined by others. So, let's see how to find $\sqrt{\mu_2}$ Maxwell's equation using K_0 , G, and K_{mK} . This also gives other important results. In detail. Connection Between Gravity and the Quantum World [6].

$$\epsilon \cdot \mu = \frac{1}{c^2} \tag{8}$$

$$K_0 = \frac{1}{4\pi\epsilon} \rightarrow K_0 = \frac{\mu}{4\pi} c^2 \left[\frac{kgm^3}{A^2s^4} \right] \tag{9}$$

Let's use unit analysis. Let's see what the unit tells us. a, $\frac{kg \cdot m}{A^2 s^2} \cdot \frac{m^2}{s^2}$ From this, the units of μ and c^2 in equation (9) are clearly visible. b, $\frac{kg}{A^2 s^2} \cdot \frac{m^3}{s^2}$ The Kepler constant unit appears as the second term. We call the first term. μ_1 because we do not know. c, $\frac{kg^2}{A^2 s^2} \cdot \frac{m^3}{kg s^2}$ The gravitational constant G is the second term. The first term is μ_2 . With the new terms, the equation for K_0 , based on the units.

$$K_0 = \mu_1 K_{mK} \tag{10}$$

$$K_0 = \mu_2 \cdot G \tag{11}$$

After this, μ_1 and μ_2 can be calculated.

$$\mu_1 = \frac{K_0}{K_{mK}}$$

$$\mu_1 = \frac{9 \cdot 10^9}{1,327 \cdot 10^{20}}$$

$$= 6,782 \cdot 10^{-11} \left[\frac{kg}{A^2 s^2} \right] \quad (12)$$

$$\mu_2 = \frac{K_0}{G}$$

$$\mu_2 = \frac{9 \cdot 10^9}{6,6742 \cdot 10^{-11}}$$

$$= 1,348 \cdot 10^{20} \left[\frac{kg^2}{A^2 s^2} \right] \quad (13)$$

We have calculated the values of μ_1 and μ_2 . Let's see how we can use them? Based on the units, we can see that μ_1 and μ_2 can be divided by each other. The result will be in units of mass.

$$\frac{\mu_2}{\mu_1} = \frac{1,348 \cdot 10^{20}}{6,782 \cdot 10^{-11}} = 1,987 \cdot 10^{30} kg \quad (14)$$

This is nothing but the mass of the Sun. This allows us to determine the value of the unknown charge Q in units of μ_1 and μ_2 . Based on the above.

$$Q^2 = \frac{M_S}{\mu_1}$$

$$Q^2 = \frac{1,987 \cdot 10^{30}}{6,782 \cdot 10^{-11}}$$

$$= 2,929 \cdot 10^{40} [A^2 s^2] \rightarrow$$

$$Q = 1,711 \cdot 10^{20} [As] \quad (15)$$

Since we calculated it using the mass of the Sun, we will index it. This is the charge for the Sun.

$$Q = 1,711 \cdot 10^{20} [As] = Q_S \quad (16)$$

Based on these, μ_2 can also be written in the following form.

$$\mu_2 = \frac{k_0}{G} = \frac{M_S^2}{Q_S^2} \quad (17)$$

Using equation (17), knowing μ_2 and the mass of the Earth, the charge of the Earth can also be determined by Q_E .

$$Q_E = 5,149 \cdot 10^{14} [As] \quad (18)$$

We get this result if we calculate the modified Kepler constant for the Earth and use it to calculate.

$$K_0 = \mu_1 K_{ME} \quad (19)$$

In full detail. Connection Between Gravity and the Quantum World.[6] Let's look at the second way to determine μ_2 . But first, let's do a calculation. We know the charges of the Earth and the Sun. Let's calculate the force between the Sun and the Earth

using Coulomb's law, using the charges we know. Then, let's calculate the force between the Sun and the Earth using Newton's law.

Coulomb's law: $F_C = K_0 \frac{Q_S Q_E}{R_{SE}^2}$

$$3,548 \cdot 10^{22} \left[\frac{kgm}{s^2} \right] = 9 \cdot 10^9 \frac{1,711 \cdot 10^{20} \cdot 5,149 \cdot 10^{14}}{1,495^2 \cdot 10^{22}} \quad (20)$$

Newton's law: $F_N = G \cdot \frac{M_S \cdot M_E}{R_{SE}^2}$

$$3,553 \cdot 10^{22} \left[\frac{kgm}{s^2} \right] = 6,67424 \cdot 10^{-11} \frac{1,99 \cdot 10^{30} \cdot 5,98 \cdot 10^{24}}{1,495^2 \cdot 10^{22}} \quad (21)$$

The calculation shows that the two forces are the same. So, it can be written that.

$$F_C = F_N \quad (22)$$

It can be calculated for any planet or moon and always gives a good result. This means that Newton's and Coulomb's force laws are the same. Now let's look at the second solution of $\sqrt{\mu_2}$. Based on the previous calculation, we can write.

$$K_0 \frac{Q_S Q_E}{R_{SE}^2} = G \cdot \frac{M_S \cdot M_E}{R_{SE}^2}$$

$$\frac{K_0}{G} = \frac{M_S M_E}{Q_S Q_E} = \mu_2 \rightarrow \mu_2 = \frac{k_0}{G} = \frac{M_S^2}{Q_S^2}$$

$$\frac{M_S}{Q_S} = \frac{M_E}{Q_E} = \sqrt{\mu_2} \quad (23)$$

(23) is a constant in the Solar System. The charge of any planet can be determined using. Let's see how $\sqrt{\mu_2}$ helps in building the electromagnetic solar system. $\sqrt{\mu_2}$ is a universal help. The following equation can also be written using the units. $\sqrt{\mu_2} \cdot$

$$g = E \quad (24)$$

Let's check equation (24). The Sun's gravitational field strength at the Sun-Earth distance.

$$g_{SE} = 5,933 \cdot 10^{-3} \left[\frac{m}{s^2} \right]$$

The centripetal acceleration of the Earth is also the same. Let's calculate with equation (24).

$$\sqrt{\mu_2} \cdot g = E_{SE} \rightarrow 1,161 \cdot 10^{10} \cdot 5,933 \cdot 10^{-3}$$

$$= 6,888 \cdot 10^7 \left[\frac{kgm}{As^3} \right] \quad (25)$$

Let's check how much electric field strength the charge Q calculated for the Sun generates at the Sun-Earth distance.

$$E_{SE} = K_0 \frac{Q_S}{R_{SE}} \rightarrow 9 \cdot 10^9 \frac{1,711 \cdot 10^{20}}{1,495^2 \cdot 10^{22}}$$

$$= 6,889 \cdot 10^7 \left[\frac{kgm}{As^3} \right] \quad (26)$$

The two results are the same. This proves that the calculated charge value for the Sun is good. Also, equation (24) is correct. We can also calculate the Earth's orbital speed using $\sqrt{\mu_2}$ and it can be used in many other cases.

In full detail. Connection Between Gravity and the Quantum World.[6] Let's do a thought experiment. Let's investigate the force acting on the Earth using the Lorentz equation. Write the equation for the Lorentz force for the case where E and B are perpendicular to each other.

$$F_L = Q_E \cdot E_{SE} + Q_E \cdot v_E \cdot B_{SE}$$

$$F_L = F_{L1} + F_{L2} \tag{27}$$

We can calculate the first term of the Lorentz equation. We know the values of Q_E and E_{SE} . We have already calculated these earlier.

$$\begin{aligned} Q_E &= 5,149 \cdot 10^{14} [As] \\ E_{SE} &= 6,888 \cdot 10^7 \left[\frac{kgm}{As^3} \right] \\ F_{L1} &= Q_E \cdot E_{SE} \tag{28} \\ F_{L1} &= 5,149 \cdot 10^{14} \cdot 6,888 \cdot 10^7 \\ &= 3,546 \cdot 10^{22} \left[\frac{kgm}{s^2} \right] \end{aligned}$$

The result obtained now is the same as the force calculated using Coulomb's and Newton's laws (20), (21). Thus, three calculations have already given the same result for the force between the Sun and the Earth. In order for the Earth to stay in its orbit, the second term of the Lorentz equation is also needed. The two forces must balance each other. Otherwise, the Earth could not stay in its orbit. $F_{L2} = Q_E \cdot v_E \cdot B_{SE}$ (29) We need to determine the B_{SE} value of the magnetic induction. For this, we also know the necessary data.

$$\begin{aligned} B_{SE} &= \frac{E_{SE}}{v_E} \rightarrow 2,313 \cdot 10^3 \left[\frac{kg}{As^2} \right] \\ &= \frac{6,888 \cdot 10^7}{2,978 \cdot 10^4} \tag{30} \end{aligned}$$

Let's see if we can calculate the value of B_{SE} in another way. $\sqrt{\mu_2}$ will help here too.

$$\begin{aligned} B_{SE} &= \frac{g_{SE}}{v_E} \cdot \sqrt{\mu_2} \rightarrow 2,313 \cdot 10^3 \left[\frac{kg}{As^2} \right] \\ &= \frac{5,933 \cdot 10^{-3}}{2,978 \cdot 10^4} \cdot 1,161 \cdot 10^{10} \tag{31} \end{aligned}$$

However, we do not know what induces the calculated B. Is it excited by the Sun or the Milky Way system? Let us calculate the value of F_{L2} .

$$\begin{aligned} F_{L2} &= Q_E \cdot v_E \cdot B_{SE} \rightarrow 3,543 \cdot 10^{22} \left[\frac{kgm}{s^2} \right] \\ &= 5,149 \cdot 10^{14} \cdot 2,978 \cdot 10^4 \cdot 2,313 \cdot 10^3 \end{aligned}$$

The calculation shows that $FL1=FL2$ are the same force effects, but in opposite directions. Proving that the Earth orbits the Sun and moves with it, obeying Lorentz's law. Also showing that the electromagnetic Solar System also operates according to the laws of physics. The force effect between the Sun and the planets can also be described using Lorentz's law. Lorentz's equation shows that the Solar System acts like a velocity filter. Let's look at Lorentz's and Newton's equations again.

$$F_L = Q_E \cdot E_{SE} + Q_E \cdot v_E \cdot B_{SE} \tag{27}$$

$$F_L = 0 \rightarrow Q_E \cdot E_{SE} = -Q_E \cdot v_E \cdot B_{SE} \tag{32}$$

$$F_N = M_E \cdot g_{SE} + M_E \cdot \frac{v_E^2}{R_{SE}} \rightarrow F_N = F_{SE} + F_{Ec} \tag{33}$$

$$F_N = 0 \rightarrow M_E \cdot g_{SE} = -M_E \cdot \frac{v_E^2}{R_{SE}} \tag{34}$$

We know the calculation result of the terms of equations (27) and (33). $F_{SE} = 3,546 \cdot 10^{22} \left[\frac{kgm}{s^2} \right]$ The force acting between the Sun and Earth. $F_{Ec} = 3,546 \cdot 10^{22} \left[\frac{kgm}{s^2} \right]$ Centripetal force acting on the Earth. The gravitational force can only be identical to the electromagnetic force if the following condition is met.

$$M_E \cdot g_{SE} = Q_E \cdot E_{SE} \tag{35}$$

$$M_E \cdot \frac{v_E^2}{R_{SE}} = Q_E \cdot v_E \cdot B_{SE} \tag{36}$$

Equation (35) corresponds to the attractive force between the Sun and the Earth. The result is the same for the electric force as for the gravitational force. And (36) corresponds to the centripetal force acting on the Earth. Therefore, we can write the following equations.

$$M_E \cdot g_{SE} = Q_E \cdot E_{SE} = 3,546 \cdot 10^{22} \left[\frac{kgm}{s^2} \right] \tag{37}$$

$$g_{SE} = \frac{Q_E E_{SE}}{M_E} = 5.933 \cdot 10^{-3} \left[\frac{m}{s^2} \right]$$

$$M_E \cdot \frac{v_E^2}{R_{SE}} = Q_E \cdot v_E \cdot B_{SE} = 3,546 \cdot 10^{22} \left[\frac{kgm}{s^2} \right] \tag{38}$$

$$a_{Ec} = \frac{Q_E v_E B_{SE}}{M_E} = 5.933 \cdot 10^{-3} \left[\frac{m}{s^2} \right]$$

We can see that gravity and the electromagnetic field can be used to calculate the forces acting between the Sun and the Earth. The equations also show how much gravity a given electric field is equivalent to. The left-hand side of equations (37) and (38) describes the forces acting on the Earth using mechanics. The right-hand side of equations (37) and (38) describes the forces acting on the Earth using the electromagnetic field. This shows that gravity and the electromagnetic field are one and the same. Equation (38) also shows that a gravitational field is generated during acceleration.

But we also know that when charges are accelerated, an electromagnetic wave is generated. This begins to solve the problem of static charges. So, the Solar System can be modeled in two ways. It can be described using mechanics, and it can also be described using the electromagnetic field. There is a predictable relationship between the gravitational field and the electromagnetic field. It is possible to switch from one model to the other. It has become certain that Coulomb's law and Newton's law of gravity are identical. The results of Lorentz's equation also confirm this. How can we prove that the gravitational field consists of electric and magnetic fields?

Let's examine the following velocity filter.

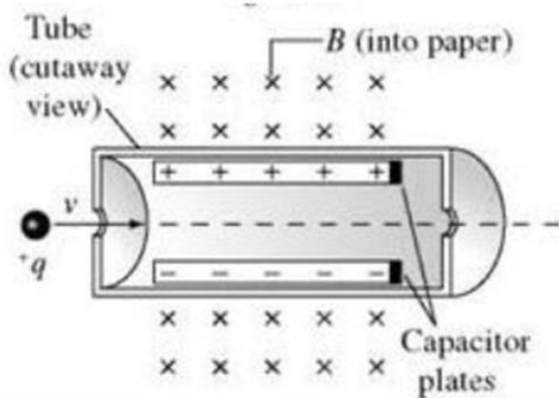


FIGURE 1: Velocity filter [7].

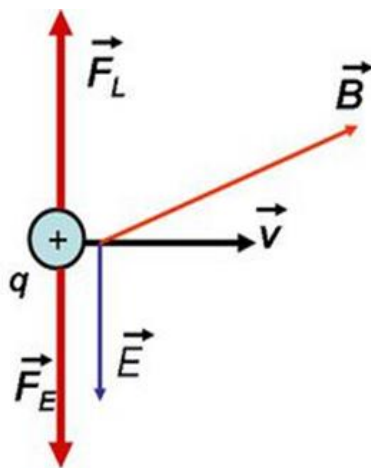


FIGURE 2: The force acting on a particle passing through a velocity filter as shown by the Lorentz equation [7].

The force acting on a particle passing through a velocity filter is given by the Lorentz equation, as shown in Figure 2.

$$F = QE + Q \cdot v \cdot B$$

Only particles that satisfy the following equation pass through the velocity filter. $QE = -Q \cdot v \cdot B$. That is, the two forces cancel each other out. The force acting on the particle is $F=0$. This equation has been experimentally verified. The experiment was conducted under terrestrial conditions, where the

Earth's gravitational field is active. However, the gravitational force is not included in the Lorentz equation. We do not know of a charge Q that has no mass. So, the equation should also include an $m \cdot g$ term. There is no $m \cdot g$ term in the equation. The velocity filter still works accurately. This shows that the force between masses is created by the electromagnetic field. So, the Lorentz equation confirms that the force between masses is of electromagnetic origin. This also happens during the Earth's rotation. Let's compare the solar system with a speed filter. The electric charge of the Sun provides the field force E . The Earth orbits the Sun perpendicular to the field force E , but the Earth also moves parallel to the Sun's motion, perpendicular to the induction field B . This creates a counter-force effect against the Sun's attractive force. The Lorentz force is balanced.

$$F_L = 0 \rightarrow Q_E \cdot E_{SE} = -Q_E \cdot v_E \cdot B_{SE} \quad (32)$$

The Solar System is a circular velocity filter. Let's look at the velocity filter! In the velocity filter, a particle with charge q moves in a space E with a velocity v . Its motion is also perpendicular to the induction B . Lorentz's law applies to both velocity filters. Lorentz's law proves that gravity is built up from an electric field. The question is, how do the calculations give the correct result? Let's look at the two best-known properties of gravity. - We cannot shield it; it penetrates everything. - It always acts as a unipolar, attractive force. The shielding problem suggests that gravity can be a very high-frequency force field. It can even be close to the Planck frequency. If this is a high-frequency electric field, then it is understandable why gravity is unipolar. Let's quote Lenz's law. The induced voltage always creates a current that acts against the force that created it. We can even check this with a 50Hz alternating current electromagnet. An alternating current electromagnet provides a continuous attractive force on magnetizable materials. Lenz's law is not limited to low frequencies. This, however, contradicts calculations with static force fields. However, the results of calculations with Lorentz's, Coulomb's, and Newton's laws are identical. This shows that at least this much charge must be moving at high frequency to produce the necessary force effects. In other words, static charges are the result of charges vibrating at high frequency. This shows how accurate the calculations are when calculating static charges.

CONCLUSION

A new solar system model can be constructed using Lorentz's law. If we use mechanics to calculate, we get a gravitational, classical model. If we use Lorentz's equations, we get an electromagnetic description of the solar system. There is a direct connection between the gravitational field and the electromagnetic field. It is possible to switch from one model to the other. The electromagnetic field and the gravitational field are connected by a proportionality factor. $\sqrt{\mu_2} \cdot g = E \quad (24) \quad B_{SE} = \frac{E_{SE}}{v_E}$
 $\rightarrow B_{SE} = \frac{g_{SE}}{v_E} \cdot \sqrt{\mu_2} \quad (30)(31).$

One can switch from one model to the other using the proportionality factor. For any planet, we get the correct result by using the proportionality factor. The two solar system models point in the direction that gravity is of electromagnetic origin. The known properties of gravity indicate that gravity is a very high-frequency electromagnetic wave or some electromagnetic medium that we do not know and cannot perceive. However, if an electric field change occurs in this medium, a magnetic field is generated. In other words, the self-induction effect must also work. The following assumptions are based on these findings. Gravity could be the carrier medium for light, as a very high-frequency electromagnetic wave modulated by the lower frequency of light. Light is also an electromagnetic wave. The energy of the gravity of the universe could be the same as dark energy, because it is a very high-frequency electromagnetic wave or medium. The higher the frequency of an electromagnetic wave, the greater its energy. This suggests that gravity could be a self-inductive, self-sustaining energy, in which both the electric field and the magnetic field can be present simultaneously. Gravity and electromagnetic waves also have a common property. Both are induced by motion. They can also amplify and cancel each other out. This also points in the direction of electromagnetic waves. This leads to another explanation for black holes. We cannot see black holes because the electromagnetic fields there cancel each other out. Thus, light lacks a carrier medium [7]. The solar system could be a velocity filter and a possible sketch of a space engine. All of this shows that gravity still holds many surprises and is worth further research.

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