Gravitational hypothesis (possible theory)

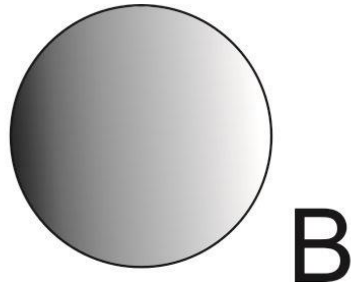
This publication is the result of a lot of years of experiments and musings and of the fact that the author absolutely refuses to accept Albert Einstein's hypothesis, which has been stubbornly propagated and enforced, against sane reason. The next thing that the author cannot and will not accept is the claim that forces are translated from one object to the other, via a specific form of matter called a FIELD. While everyone waited, and still are, for a Unified Field Theory to be created, which was supposed to be a universal theory that would explain the transmitting of gravitational forces over distance, as well as transmitting other forces over distance. Said theory was also supposed to explain the electric and magnetic forces, strong nuclear interaction forces and weak atomic interaction forces, with the final two forces being introduced as terms much later on.

The author is a mechanical engineer (dipl. ing.) by education. He additionally has a PhD. in mathematics. Meaning that the author is both an engineer and a mathematician. By soul and calling he is a physicist, loves physics, engages in it from his own pocket. He owns a lot of equipment for physics experiments, as he has done and is doing many and different physics experiments. As a mechanical engineer, the author has mastered mechanics – the science of movement.

After this short introduction, let's begin to talk about GRAVITY.

Here we have object B, located at a large enough distance from any other objects. (Fig.1). The object, which could be a single hydrogen atom that has lost its only electron or just a hydrogen atom, since the electron's mass is 1836 times smaller we can consider that the electron isn't there. The object could be any object located in the Universe, for example an asteroid, planet or star.

Fig.1



The only condition here is that there's not supposed to be any objects near or much larger than its size nearby. What does nearby mean here? Let's assume that the distance shouldn't be any less than 1.E9 times the object's diameter (1 billion times) or the diameter of the nearest object (whichever is larger). *Here, and throughout this document, I will be using the numeric format used in FORTRAN.*

Fig.2

The body is sitting there and waiting until another different object C, with its mass mc comes near it. When (or if) that happens (fig.2), after a duration of time, the amount of which we will be able to determine after the end of the current publication, the object begins to be affected by the force **F,** equal to:

$$F = -G\frac{m_B.m_C}{r^2} \qquad \textbf{(1)}$$

Where **G** is a gravitational constant = 6.67E-11 m3/kg.s2, m_B is object **B**'s mass, m_C is object **C**'s mass, and **r** is the distance between the objects. The formula has been derived by Newton and is exact!

Now, three big questions will come to mind: how does object B know that object C has appeared in order to generate the force F; how did object B know the mass of object C for that matter? And the final question is, how exactly did object B generate the force F after recognizing that object C had appeared? Let's not forget that there is no matter around object B, it all exists within the vacuum of space. The only way for object B to generate force from within itself is the REACTIVE way, like rockets, meaning in order to generate force, small particles at a high speed had to be emitted. Here we will assume that each object, over a period of time, emits a huge amount of miniature particles, which we will call GRAVITRONS, which we will denote with the Cyrillic letter – **Г** .

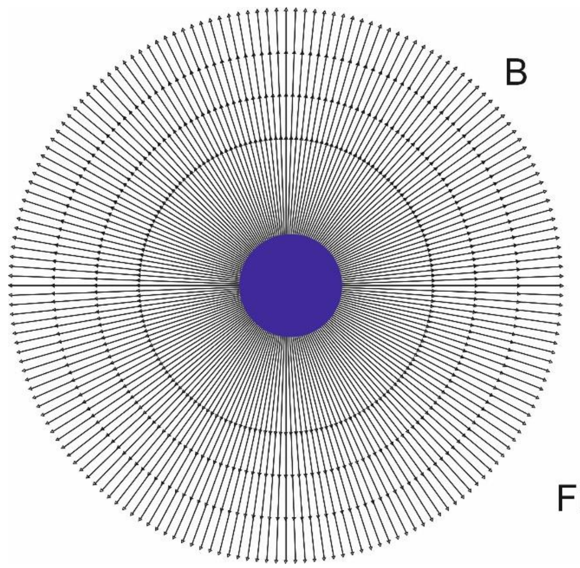


Fig.3

In Fig. 3 we have displayed object B, which is emitting gravitrons in all directions, in a similar way like a heated object emits photons. In an analogical way an object that contains radioactive substance emits alpha and beta particles, along with gamma radiation. The speed of gravitron emission is immense, and we will calculate it later on in the current publication. The smallest object that emits gravitrons is the proton. So, from this we can formulate the following claims – axioms:

(A1) Each object that has mass, emits amounts of gravitrons, proportional to the mass of the object!

(A2) In order to engage in gravitational interactions, each object must emit gravitrons.

The two claims/laws (A1) and (A2) are supported by the following well known fact, measured very precisely after setting up a retro-reflective prism on the Moon, showcased here:

https://eclipse.gsfc.nasa.gov/SEcat5/secular.html

The fact goes as follows: each year the Moon is getting further away from the Earth with 38.247mm +/- 0.004mm (thirty eight millimeters).

Similar conclusions have also been drawn here:

https://www.researchgate.net/publication/313444201_The_acceleration_of_the_Moon_and_the_Universe

https://academic.oup.com/mnras/article/386/1/155/977315

Now how exactly would this fact established by NASA, prove A1 and A2?

Here's how:

Let's look at the differential equations for the Moon's movement around the Earth (see fig.4):

$$m_m.\frac{d^2x}{dt^2} = F_x(t) \quad ; \quad m_m.\frac{d^2y}{dt^2} = F_y(t) \qquad \textbf{(2)}$$

Under the following conditions (see fig.4),

$$F_{x0} = F = -G.\frac{m_m.m_e}{r^2} \quad ; \quad F_{y0} = 0$$

$$v_{x0} = 0 m/s \; ; \; v_{y0} = 969.0 m/s$$

$$x_0 = 495696000 m = апогей \; ; \; y_0 = 0 m$$

$$m_m = const; m_e = const$$

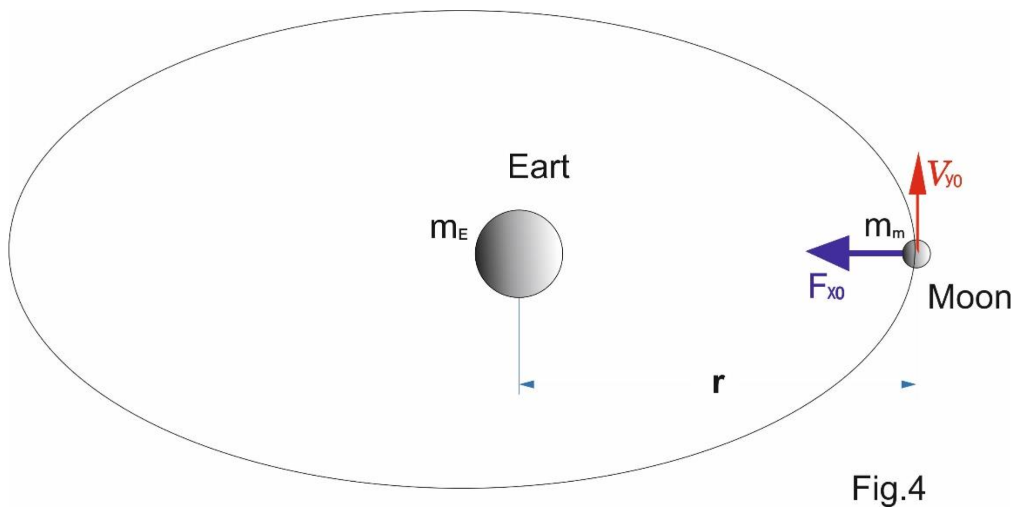


Fig.4

If the masses of both the Earth and Moon are constants, then both differential equations (2) can be solved without difficulty. The solution is an ellipse, with the Earth being in one focus. If however, the masses are a function of time, the equations (currently (2)) become (3) and as such are much more difficult to solve!

$$m_m(t).\frac{d^2x}{dt^2} = F_x(t) \; ; \; m_m(t).\frac{d^2y}{dt^2} = F_y(t) \quad (3)$$

It is not known to the author that someone has solved them before. The author has found solutions to the differential equations (3), and said solutions have led to the following facts: the masses of both Earth and Moon are decreasing over time by a coefficient α, or we can write that for a random object, the formula would be:

$m(t) = m_0 - m(t).\alpha.t$, and when we solve in reference to the mass, we get

$$m(t) = \frac{m_0}{1+\alpha.t}$$

(5)

Notice that α is the same for any object, including the Moon and Earth. The initial mass of the object in the moment when t=0 has been marked as m_0. After solving the differential equations (3), it becomes clear that the Moon is getting further away from the Earth with 38mm per year, only when the Moon's mass is decreasing by 178 000 kg per second while the Earth's mass is decreasing by 14 447 000 kg per second. The solutions of (3) will be object to the next publication. Until now, the Moon getting further away was explained via the tides. But careful calculations show that that is not so. We will be looking into it further in a future publication, where we will explain the tides using the gravitron theory. The Earth and Moon getting further apart can only occur due to loss of mass! It is a known fact that at least two of the planets in the Solar system (with one of them being the Earth, see links above) are getting further away from the Sun as well! I claim that the other planets are also moving in an elliptic growing spiral.

Another fact that generally cannot be explained (but is explained really easy with the gravitron theory) is that the Earth changes its speed in a jumping faction upon its orbit. These jumps are very small and have been discovered after the invention of the atomic clocks.

It is due to this reason that the Universe is expanding as well! There was no "Big Bang"! The Universe is just changing (growing). Each object, after a given lifetime, loses a large amount of its mass and leaves the previously occupied by it orbit, meaning that it is no longer a satellite of its previous planet (star) and finds itself a new “master” which it can orbit around.

The Earth and Moon will lose half of their mass in a bit more than 13 billion years, but they will leave their orbits long before that time comes. With the solution of the differential equations for the Moon’s movement around Earth, taking into consideration the fact that the Moon is moving further away from the Earth with 38mm per year, we can prove that this is only due to loss of mass over time. Said loss is due only to the emitting of particles, which we will call GRAVITRONS.

The Moon’s mass is 7.347673 E 22 kg, and its emitting 178 000kg per second. From these numbers, we can calculate the specific mass loss per second for an object with 1kg of mass, which would be:

$$\propto = \frac{\Delta \boldsymbol{m}}{\boldsymbol{m}} = \frac{1.78E5}{7.34E22} = 2.4225E - 18 \qquad [1/s] \qquad (6)$$

Claim (A3) Each object that has mass, loses $\alpha . m(t)$ mass per second!   In this way the object is able to gravitationally interact with other objects.

This is shown in fig.3

A body with a mass of 1kg will have lost 7.64E-11kg or 7.64 **picograms** per year! This is the biggest issue with gravity. At the current conditions of technology, we cannot measure a mass of 1kg with this accuracy and as such cannot establish this fact for sure! If we cannot perform an experiment which shows and proves that each object loses mass per second, we are left with the following facts as proof: the Moon getting further way, several planets getting further away from the Sun, the loss of mass of the Sun itself, along with the expansion of the Universe. Later on in the current publication, by using the hypothesis A3, will derive Archimedes’ law, we will explain the tides, we will explain the Brownian motion (you can probably guess what the explanation to that will be), evaporation… In this way, A3 the hypothesis becomes a THEORY – Theory for gravitational interaction.

Now you could ask, how did object B know the mass of object C, in order to generate force proportional to its mass?

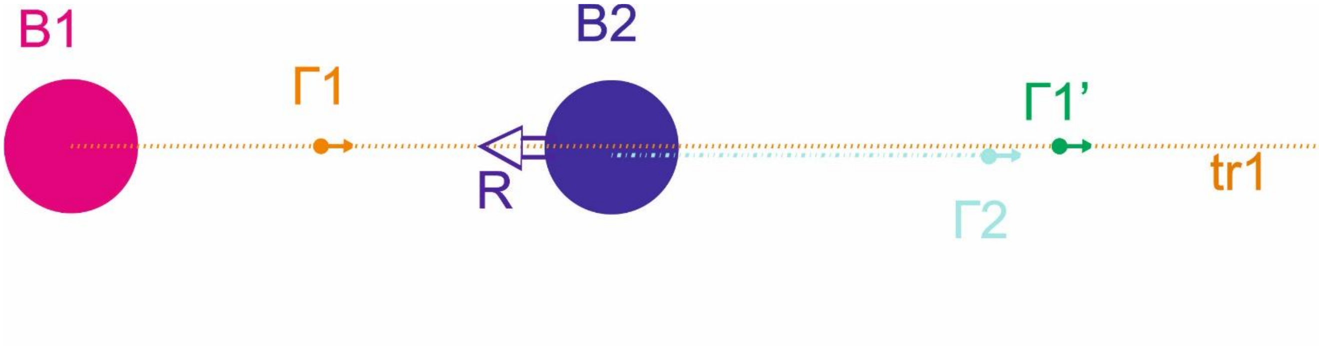


Fig.5

Let's look at fig.5. There we have shown how two objects interact via their emitted gravitrons. At any given moment in time, object B1 is emitting gravitron Γ1. Γ1 is moving at a huge speed in the right direction towards its linear trajectory tr1. At some moment in time, Γ1 pierces and goes through object B2, retaining its trajectory tr1 and becoming Γ1'. But when passing through B2, the gravitron Γ1 initiates the emission of Γ2, a gravitron belonging to object B2. Γ2 exits B2 in a trajectory parallel to tr1. Said induced emission generates the reactive force R.

Photons work in an analogical way, when it initiates emission of another photon from an energized atom or crystal in laser emission.

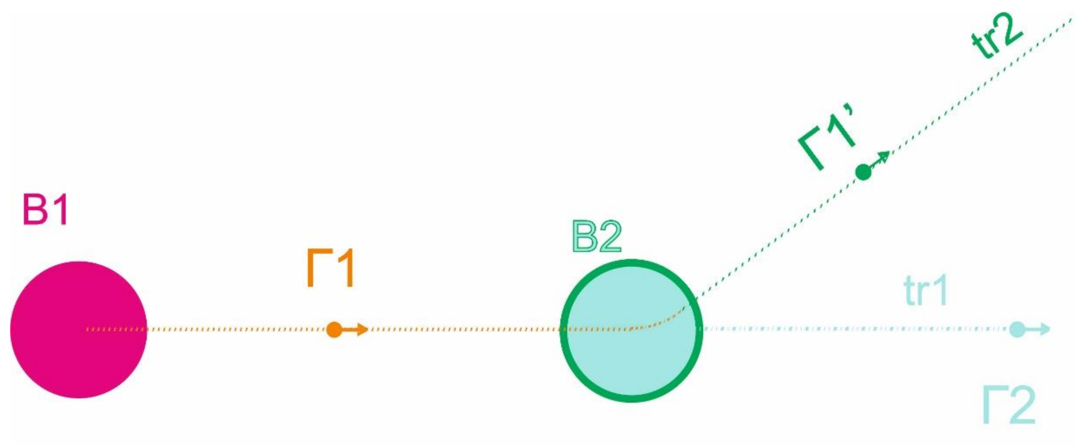


Fig.6

In Fig.6 it is shown that under certain conditions, Γ1's trajectory may be altered and Γ1' could leave object B2 via trajectory tr2. This would only happen if B2’s surface layers are less dense than its central area layers. An object with a density increasing from the sides to the center would act as a gravitational dispersing lens! The stars, Sun and Earth are such objects! The Moon however is probably not such an object, and it is probably due to that that the Moon is always turned on the same side towards the Earth in its movement. Smaller asteroids are also not such objects, and as such, all objects that have the same density across their entire volume are not gravitational lenses.

In fig.7 we have shown the gravitational influence the Earth has on the Moon, via its emitted gravitrons.

The result is the reactive force R, generated by the Moon itself.

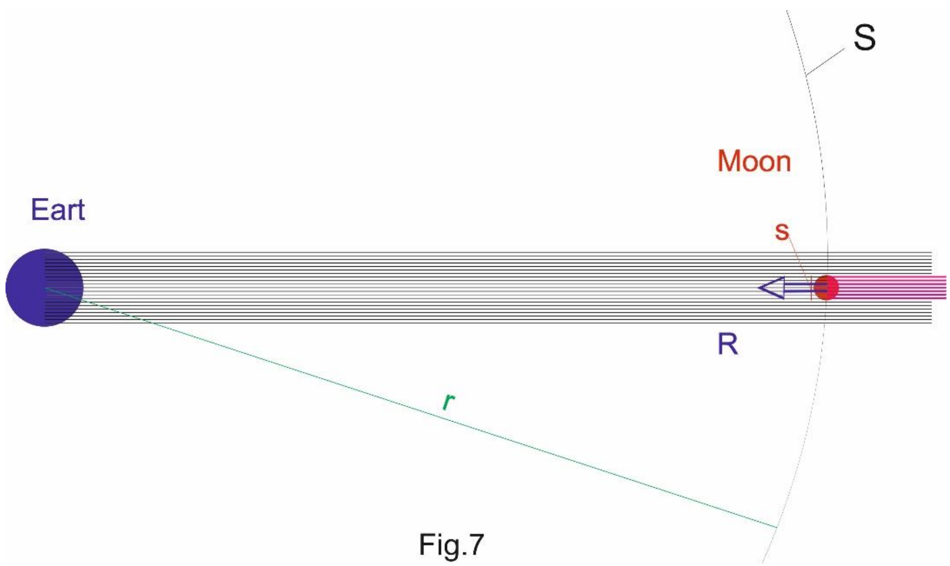


Fig.7

In fig.8 we have shown the gravitational influence the Moon has on the Earth.

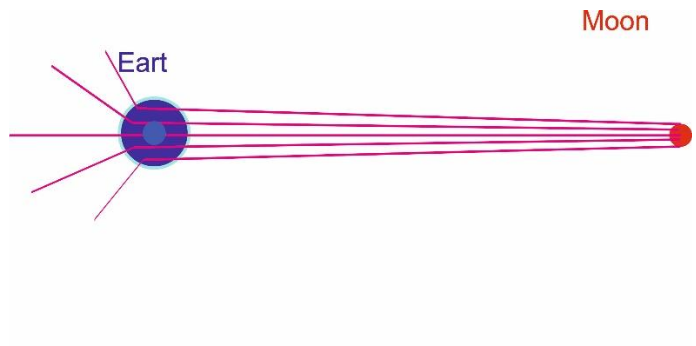


Fig.8

We can see that due to the fact that Earth is an object of changing density (atmosphere with a density of 1.3kg/m3, water on the surface with a density of 1000 kg/m3, mantle with a density of 5500 kg/m3 and core with a much higher density), the trajectory of the gravitational force lines changes, as the Earth is on object that is alike to a dispersing gravitational lens. This is a very important fact that explains the tides.

But let us get back the forces calculation.

If we know by how much the Earth and Moon are getting lighter by per second, we can make the connection to the gravitational attraction force between Earth and Moon (see figs. 7 and 8).

Let us repeat this: the fact that the Moon is getting further away from the Earth by 3.8cm per year along with the solutions of differential equations for the Moon's movement have given us the number 178 000kg, which is how much mass the Moon loses per second!

Now we will calculate the speed at which gravitrons move. Let us repeat what the gravitrons are first.

The gravitrons, indicated with the Cyrillic letter Г are particles with a small mass and a huge speed!

The Earth itself is losing

$$\Delta m_E = m_e * \alpha = \textbf{5.9735E24*2.4225E-18=14.485E6 kg}$$

Per second. Here we have another formula:

$$\Gamma m = \Delta m_E \frac{s}{S}$$

,where **s** is the surface area of the Moon's disk, visible from the Earth and **S** is the surface area of the sphere that has a diameter with the size of the Moon's orbit around the Moon and Γm is the mass of Earth's gravitrons that reach and pierce the Moon.

Here is the equation of the surface area for the Moon's visible disk:

$$s = \pi * \frac{d_m{}^2}{4} = \pi * \frac{(3.4742E6)^2}{4} =$$

$$= 9.48E12[m^2]$$

where $d_m = 3.4742E6[m]$ and is the Moon's diameter.

The surface area of the sphere with a diameter equal to the diameter of the Moon's orbit is

$$S = \pi * D_m{}^2 = \pi * (7.68E8)^2$$

$$= 1.853E18[m^2]$$

Where $D_m = 7.68E8[m]$ is the diameter of the Moon's orbit

Now, let's put all the numbers back in and see what we get

$$\Gamma m = \Delta m_E \frac{s}{S}$$ =14.485E6*9.4675E6/1.856E12=

= 73.89 kg/s

The force of the Moon's attraction towards Earth is

$$F = -G.\frac{m_m.m_e}{r^2} =$$

=6.67E-11*5.9736E24*7.347673E22/(3.844E8)**2=

=1.9812E20 N

This force gives the Earth the following impulse per second

$P_F = 1s * F$, but on the other hand, the gravitrons emitted by the Moon in response to being pierced by Earth's gravitrons give the same impulse

$P_\Gamma = \Gamma m * V_\Gamma$, or from the impulse conservation law

$$1s * F = \Gamma m * V_\Gamma \qquad \textbf{(8)}$$ from where

$$V_\Gamma = \frac{F}{\Gamma m} = \frac{1.98E20}{73.89} = 2.68E18[m / s]$$

And from there we can see that the gravitrons' speed is equal to:

$$V_\Gamma = 29.78 * C^2 \qquad \textbf{(8)}$$

We can see that the gravitrons' speed is huge, many times going over the speed of light.

The next publication will be dedicated to the solution of the differential equations (3).

The one after that will be dedicated to the tides, along with Archimedes' law, the Brownian motion and evaporation, explain with the Universal Object Gravitational Interaction Theory.

We can establish the gravitron's mass from (9)

$$\Delta m_E = m_\Gamma * n_E , \qquad \textbf{(9)}$$

Where m_Γ is the mass of a single gravitron particle and n_E is the number of gravitrons emitted by the Earth for one second. We will be mentioning formula (9) further in the final publication, dedicated to gravity.

Conclusions: The examination of the Moon, when taking into account the fact that the Moon is getting further way from the Earth with 38mm per year, has given the only possible reason – loss of the Moon's mass at 178 000kg per second. This is a huge amount of mass, explainable only with the existence of gravitrons! Nothing else can explain this fact!

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https://www.youtube.com/watch?v=TvB3p993KCs