

Application Force Planck has two bars

Application Force Planck two rods (or two bars)

Planck force that we know is a force that can be represented as a gravitational force between two spherical masses, but you can also find an expression for gravitational force between two masses cylindrical, distanced by two rods as a center to center distance ranging R , in such a

If I can show that in the particular case when the length L of two identical rods is $2R$, then

expression Force Planck that we know is not changed, namely:

Planck Force = $(1/G)C^4$, G is the gravitational constant and C is the speed of light in vacuum,

The application is found the gravitational force between these two rods and strength compared to

Electrical and magnetic between these two rods, when one of the two bars is fixed and positively charged,

while the other bar is identical and the same positive charge and having a velocity V with respect to the bar

fixed, the two bars being identical, being distanced by a distance center to center ranging R , they have a

uniform charge density valued (q / m) , m and $m q$ to load, so it has an electric charge

The total positive valued (q / m) , the horizontal bar has a current equivalent to a rod

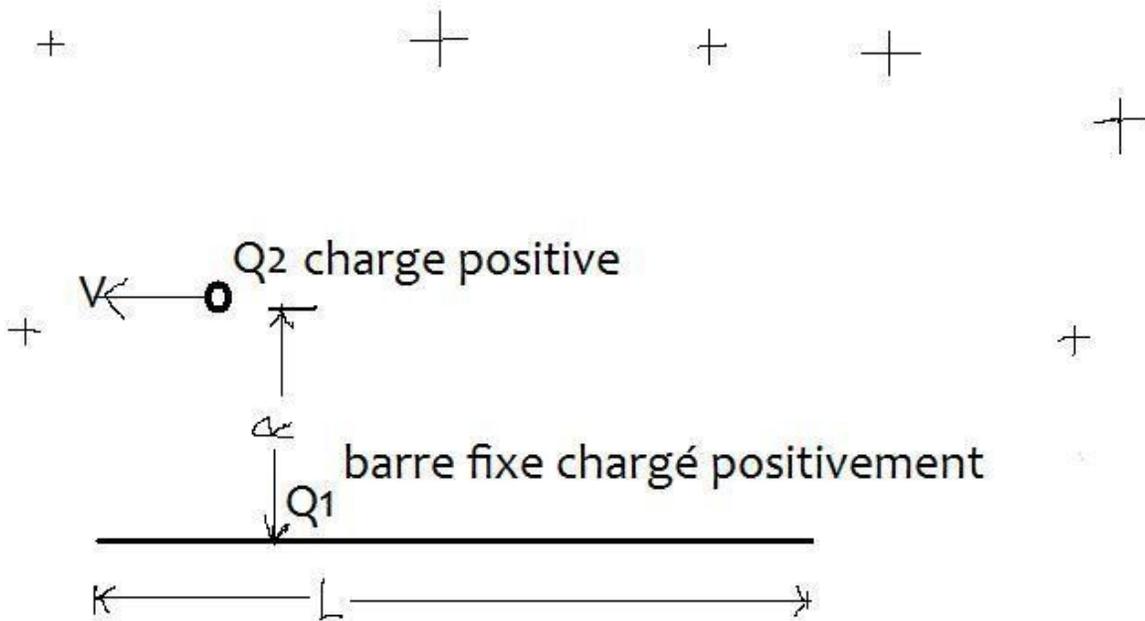
having its electric charge and

having a velocity V , the current is $(q / m) V$, here is a sketch of the two bars (must be considered

the circle representing the charge Q_2 is another bar):

figure 2

champ magnétique positif



$$\text{force élec.} = (Q_1 Q_2) / [e_0 (2\pi) (RL)]$$

$$\text{force magné.} = (\text{force élec.}) (V^2) / (C^2)$$

force électrique comparé a la force magnétique

Before finding Force planck corresponding to these two bars or two stems, first check that you can find Force Planck starting of equal gravitational force with centrifugal force when the distance between the centers of the two spheres is twice that of the Schwarzschild radius (R_{sc}) , the distance between the centers of the two spheres of the same mass and volume $2R_{sc}$ worth, here the original equation:

$$GMM / [(2R_{sc})^2] = (MV^2) / (R_{sc}), \text{ Equation 1,}$$

V is the orbital speed at a distance R_{sc} center of gravity between these two spheres of mass M identical, the center of gravity has an equal distance between the two spheres, the release rate being

by the speed of light C , it is $C = [(2)^{(1/2)}] V$, then V is $C / [(2)^{(1/2)}]$, where V is replaced in Equation 1 by its new expression, Equation 1 becomes:

$$GMM / [(2R_{sc})^2] = (MC^2) / (2R_{sc}), \text{ this becomes:}$$

$$GM / (2R_{sc}) = C^2, \text{ Equation 2,}$$

if student Equation 2 squared, it becomes:

$[G (M)^2] / [(2Rsc)^2] = C^4$, dividing by G, on each side of this equation, it becomes:

$[G (M)^2] / [(2Rsc)^2] = (1 / G) C^4 = \text{Force Planck}$, equation 3

To the two rods, the corresponding equation can be found gravitational Whereas in the application of

Gauss has gravitation, must then be considered as A_g is gravitational acceleration

proportional to a mass per unit area, the constant of proportion is $4 (\pi) G$, the general equation of

A_g gravitational acceleration is:

gravitational acceleration = $A_g = [4 (\pi) G] [M / (\text{area})]$, equation 4a,

considering that the surface considered here is $2 (\pi) (2Rsc) L$, the equation becomes 4a:

$A_g = [4 (\pi) G] [M / 2 (\pi) (2Rsc) L]$, equation 4b,

note that the distance between the centers of these two rods is $2Rsc = R$, Newton's gravitational force F_g corresponding here between our two rod worth (A_g) million, Equation 4 b

multiplied by M, ie:

$F_g = (A_g) M = [4 (\pi) G] [(M^2) / 2 (\pi) (2Rsc) L]$, Equation 5,

4c equation of gravitational force F_g for these two bars is equal to the centrifugal force F_c which is:

$F_c = [M (V_o)^2] / (Rsc)$, equation 6a,

V_o is the orbital velocity to a circular orbit, it is $V_o = [1 / (2)^{(1/2)}] V_l$, V_l or the speed is

gravitational release by replacing V_o 6a in this expression equation, it becomes:

$F_c = [M (V_l)^2] / (2Rsc)$, 6b equation

To find the corresponding Planck force for these two rods must be equality between the centrifugal force

F_c and the gravitational force F_g by replacing the release rate of the equation V_l 6b by the speed of the light C, equal forces F_g F_g is equal equations 5 and 6b:

$[4 (\pi) G] [(M^2) / 2 (\pi) (2Rsc) L] = [M (C)^2] / (2Rsc)$, Equation 7a,

simplifant in this equation, it becomes:

$(2GM) / L = C^2$, 7b equation

if squaring 7b equation, it becomes:

$(4GMM) / (L^2) = C^4$, 7c equation

multiply the left side of the equation 7c by 2 (pi) as the numerator to the denominator,

then 7c equation becomes:

$$[8 (\pi) GGMM] / [2 (\pi) (L) (L)] = C^4, \text{ 7d equation}$$

Whereas in $L / (2R_{sc}) = x$, we can replace one of the L by $x(2R_{sc})$ in 7d equation, then the equation 7d becomes:

$$[8 (\pi) GGMM] / [2 (\pi) x (2R_{sc}) L] = C^4, \text{ 7th equation}$$

for the left side of equation 7 is identical to the LHS of equation 5 must divide the left side of the equation 7th 2G and multiply by x, then doing the same for the RHS of equation 7 e, 7 e equation becomes:

$$[4 (\pi) GMM] / 2 (\pi) (2R_{sc}) L] = (x/2G) C^4, \text{ 7f equation}$$

7f equation is the general expression of the Gravitational Force between two Planck rod, $x = L / (2R_{sc})$

and for the particular condition of $L = 4R_{sc}$, $x = 2$, in such a case the equation becomes 7f

equation 5 (or equation 3) which is the expression of the gravitational force between two rods Panck for this

particular condition to be $L = 4R_{sc}$, $x = 2$, the equation becomes 7f:

$$[4 (\pi) G (M^2) / 2 (\pi) (2R_{sc}) L] = (1 / G) C^4 \text{ (for } L = 2R = 4R_{sc} \text{) (equation 5) (or equation 3)}$$

Now we can compare the gravitational force for the particular condition $L = 2R$ for these

two rods for which the remote center center is R, has electric repulsive force when it is equal to the

magnetic force of attraction, why should again considered the Gauss theorem applied to our two

bars positively charged, then it must be considered that the electric field E is proportional to the load

power per unit area, the constant proportion worth $1/E_0$, E_0 is the constant permittivity

and that the vacuum is $(8.85) (10)^{-12}$ F / m, F m for Farad and meter for the corresponding field equation electric E is:

$$E = Q / [(E_0) 2 (\pi) RL], \text{ equation 8a,}$$

$$Q = L (q / m), \text{ q / m is the charge per meter, or electric charge density,}$$

as the other bar has the same positive total electric charge, then the electric force F_c is EQ :

$$\text{Electric force} = F_c = EQ = (Q^2) / [(E_0) 2 (\pi) RL], \text{ 8b equation}$$

F_m is the magnetic force QVB , or B is the magnetic field and V is the velocity of the bar (or rod) which moves, then:

$$\text{Magnetic force} = F_m = QVB, \text{ equation 9a,}$$

under the law of Biot-Savart magnetic field B at the site of one of the bars is] (U_0)

$i] \frac{2}{R}]$, ie:

Magnetic field = $B = \frac{[\mu_0] (i)]}{[2 (\pi) R]}$, equation 9b,

i is the current horizontal bar which is equivalent to a bar of positive electric charge density Q / L

by multiplying the speed V of the moving bar, Q being the total electrical caharge This equation becomes:

$B = \frac{[\mu_0] (Q / L) V]}{[2 (\pi) R]}$, 9c equation

μ_0 is the constant magnetic permeability of vacuum and is $4 (\pi) (10)^{-7} \text{ VS} / \text{Am}$ or

$\mu_0 = (1.2566371) (10)^{-6} \text{ VS} / \text{Am}$, or $(1.26) (10)^{-6} \text{ H} / \text{m}$,

Henry H, m for meter, volt V, S to second, A for ampere.

if the expression is introduced to the B 9c equation in Equation 9a, we have:

Magnetic force $F_m = Q = (V^2) \frac{[\mu_0] (Q / L)}{[2(\pi) R]}$, 9d equation

if we rearrange the equation 9d, it becomes:

Magnetic force = $[(Q^2) (V^2)] \frac{[\mu_0]}{2 (\pi) RL}$, 9th equation

When the magnetic force is equal to the electric force, the ninth equation is equal to the equation 8b, then:

$(Q^2) (V^2) \frac{[\mu_0]}{[2(\pi) RL]} = (Q^2) / \frac{[(E_0) 2 (\pi) RL]}{9f}$ equation

according to 9f equation, we find that:

$F_m = F_e (V^2) (E_0) (\mu_0)$, 9g equation

is then observed that the magnetic force F_m is equal to the electric force F_e for $V^2 = 1 / (E_0) (\mu_0)$

then according to Maxwell equation,

$C^2 = 1 / (E_0) (\mu_0)$, equation 9,

then:

$(E_0) (\mu_0) = 1 / (C^2)$, equation 9i

then according to equation 9i, 9g the equation becomes:

$F_m = F_e [(V^2) / (C^2)]$, 9j equation

while the magnetic force F_m is equal to the electric force F_e to the $V = C =$ speed of light.

Closer look at the equation 9g I wrote again as follows:

$F_m = [(E_0) (\mu_0)] (V^2) F_e$, 9g equation

I found at least 7 constant proportions in this equation 9g,

First there is a constant electric E_0 example in the law of electric Coulomb force it also has a constant magnetic μ_0 in Biot-Savart law, but these two constant multiplied by one another are also some constant Maxwell, because:

(E0) $(UO) = 1 / (C^2)$, equation 9k,

which was found by Maxwell and because of that our 9g equation becomes equation 9d, I wrote to new in the way of rearranging the report showed strength F_m / F_c :

$$F_m / F_c = (V^2) / (C^2) \quad 9l \text{ equation}$$

but this equation can also be written in the following way:

$$F_m / F_c = [(\text{gravitational force}) / (\text{Planck Force})]^{(1/2)}, \text{ equation 9m}$$

V being the speed of release and gravitational Planck Force is $(1/G)(C^4)$, which here is a constant proportion of the equation 9m still remain valid even if the expression of the force is Planck changed, such as in cases where the length of two rods not worth 2R, then I can also considered constant Energy Equivalent Einstein is:

$$\text{Energy Equivalent of Einstein } E = MC^2 =, \text{ equation 9n,}$$

for that you need to make the comparison between energy reports and not the balance of power, for it multiply the numerator and denominator of the left-hand side of the equation by the same 9m eg distance R (2 R canceling) so that it corresponds to the ratio of energy to the RHS of equation 9m, simply multiply by M the numerator and denominator of the member right side of the equation 9m [M vanishing] 9m and our equation becomes:

$$(\text{Magnetic Energy}) / (\text{Electric Energy}) = (E_m) / (E_e)$$

$$(E_m) / (E_e) = (\text{Kinetic Energy Gravitational release}) / (\text{Equivalent to Einstein Energy}), \text{ equation 9o,}$$

here in this equation $E = MC^2$ is the Equivalent Energy Einstein is a constant, then the energy total kinetic gravitational release for 2 rods is MV^2 we can also see the constant half Schwarzschild which is $G / (C^2)$, because it is integrated in the constant

Planck, simply do:

$$[1 / (G/C^2)] C^2 = [1 / (\text{Constant Half Schwarzschild})] C^2 = (1 / G) C^4 = \\ = \text{Planck's constant (for the equation 9m)}$$

Constant is found by considering Schwarzschild radius R_{sc} worth around the center of mass spherical mass M, R_{sc} is:

$$R_{sc} = [2G / (C^2)] M, \text{ equation 9p}$$

Finally, I have not found a single constant for these equations and I have not demonstrated that these constants are all well known.

The equation 9m suggests that there is a repulsive gravity, as for the left side of the equation 9m, if magnetic force is attractive and if the electric force is repulsive, then we have two different sign for the numerator and denominator of the left-hand side of the equation 9m, then for

the member
right side of the equation $9m$ should have a good attractive force and gravity force
repulsive gravity.
The repulsive gravity was observed in 1998 because in that year the team Saul
Perlmutter observed
dark energy.

Reference:

Biot Savart law,
Coulomb's law,
Maxwell Law for the square of the speed of light,

Force Planck
Energy Equivalent of Einstein,
Schwarzschild radius,
Law of gravity of Newton,
Gauss,
Repulsive gravity and dark energy found by Saul Perlmutter's team in 1998.