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Gravity, the Solution of Dark Matter

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Abstract: In this research paper we will solve the mystery of the dark matter with gravity, and try to solve other mystery how to join quantum physics with classical physics as we know when we apply the old formula on galaxy.

$$V = \sqrt{\frac{GM}{R}}$$

Then we find that *Some of the objects of galaxy were such that according to this formula, they are moving at a fast speed, so one born from here has a rise of mystery dark matter, it is believed that some dark matter is present in galaxy, due to which its mass increases and the velocity also increases simultaneously, but the dark matter is a such type of thing that we can not see. Till today, the existence of dark matter remains a question. Why is the intensity of the dark matter in the space higher and the intensity is less somewhere else?*

Which fundamental particles made of dark matter is also a mystery for us today.

Many such *The object exists in the universe, which is not visible, but their gravity can be observed. How is it possible, we will see that further.*

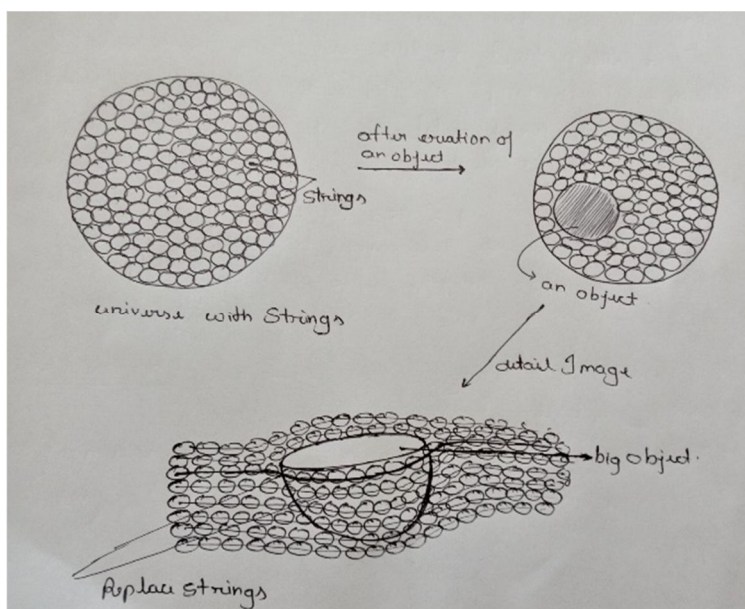
I. INTRODUCTION

In this research paper, we will put some new concepts of gravity and create new formulas. Through these formulas we will understand the dark matter and using these formulas we will achieve some well known object gravitational acceleration of calculation Will do this In paper we will understand gravity with a new concept and understand about the carrier of this force.

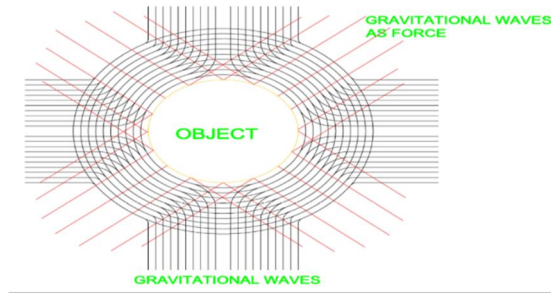
And this with the help of formulas we will modify the magnetic field strength of some planets.

II. BODY

As I have told in my old research paper, ONE FOR ALL (Mystery of black hole) by Gaurav Singh Patel, strings exist everywhere in this universe. Whenever an object is created in space, then those strings Replaces



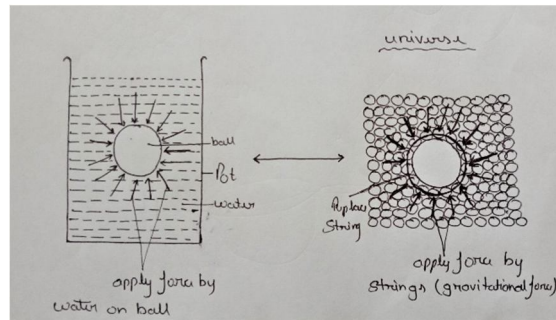
Now let's understand, how gravity force is formed-It would be better to explain it with an example. Like if we take a ball and put it in a tank filled with water, what will happen- So we find that water from the side of the ball A force is applied to the surface.



Similarly when an object is created in the universe, it falls into the sea of a strings and replace the strings, these replace strings apply a force to the object, which we call gravity.

"The force, gravity is the cause of replaces strings, which want to come on their origin place."

Note: in universe how is the object produced, and how is its destruction, I am going to publish his research paper soon, so we will see his detailed study in that paper.



As we have already found in the study The carrier of gravity is graviton.

Note - In this paper we will only Solving the mystery of the dark matter from the new formula of gravity, the property of gravity force, the construction of graviton, the relation of gravity and time and how to property of gravitational force is as electromagnetic force.



We will study all of them The upcoming research paper will be done in "GRAVITY AND TIME RELATION".

As we said above gravitational force is such an electromagnetic force, its property is like EM force-

Electromagnetic force, $F = qvB \sin \theta$

$F_{\max} = qvB$ when $\theta = 90$

Let - F_{\max} (gravitational force) = $kqvB$

Where q = charge of body

V = velocity of body

B = magnetic field strength of body

A. Charge of Body

Let we are talking a 50 kg body then in this body the electrons approx. 1.5×10^{28} and 1.5×10^{28} protons.

50 kg body ----- 1.5×10^{28} electrons

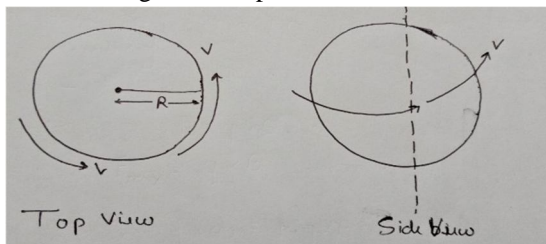
1 kg body ----- $1.5 \times 10^{28} / 50$ electrons

N kg body ----- $(1.5 \times 10^{28} / 50) n$ electrons

Charge in 1 electron = 1.602×10^{-19} coulomb

B. Velocity of Body

In below figure we are seeing a body which is rotating with V, speed



Radius of object is R

Let the body takes t time for rotating one full round
so velocity the term speed is more suitable for here

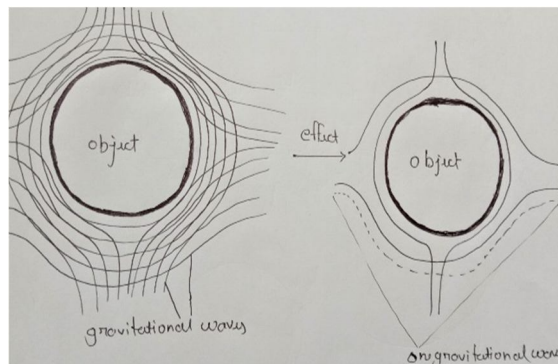
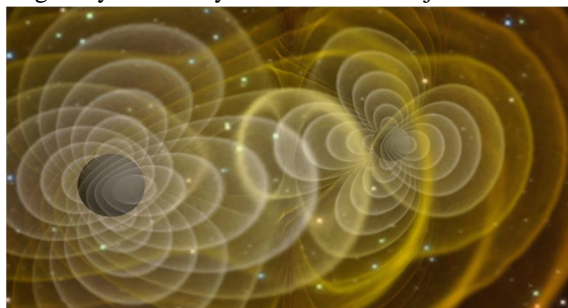
$$\text{Speed} = \frac{\text{cover distance (in meter)}}{\text{taken time (in second)}}$$

$$\text{Speed} = \frac{2\pi R}{t}$$

C. Finding Velocity of Constant k

The name of k is electrogravity constant

Made up In the figure we have seen that a gravity wave only affects half the object.

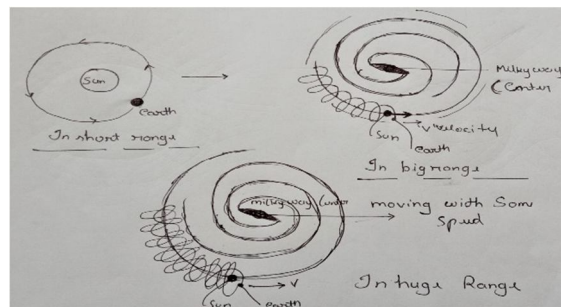
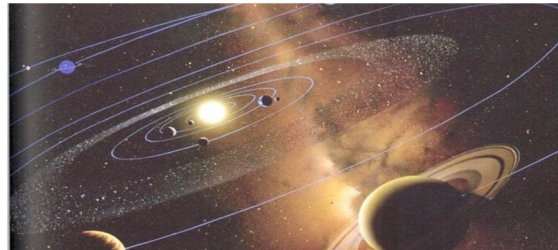


As shown in the picture gravitation wave of force only acts on half the circumference (of the object).

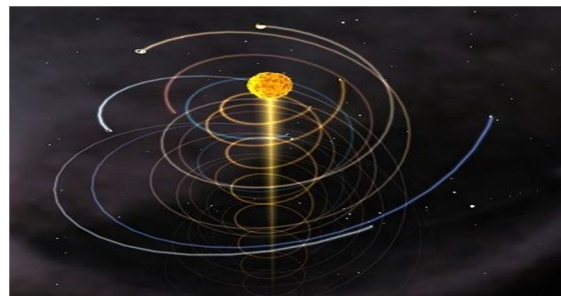
$$\text{Therefore effect of force} = \frac{F}{\pi R}$$

D. Relative Velocity of Object

As we all know Every object in the universe is moving, let us understand relative velocity with an example.- As we know the earth is orbiting the sun and going deep, we find that the sun also accompanies the entire solar system is moving around the center of The milky way galaxy, and the milky way galaxy is also moving at some speed.-



So, if we take only the rotating speed of the earth in calculation then we keep our calculation in error, that's why we take a velocity range so that we can calculate avoid error

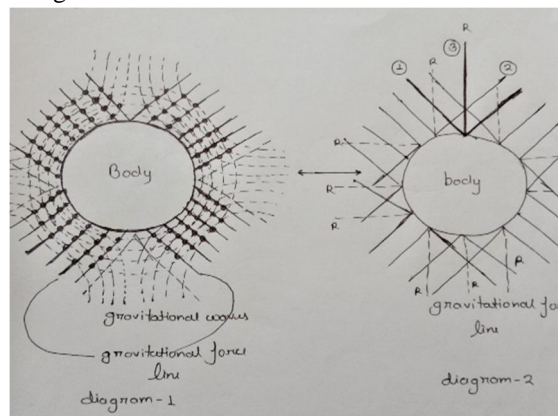


Velocity range = 100

E. Gravitational Force Vector Form

Now let's understand that use of vector in gravitational force

Let's once again draw gravitational force diagram-



As we are seeing in diagram 2 that line1 and line2 are two gravitational force and its resultant is denoted by line3. If the same pattern is seen in the whole diagram2 and both force lines are at 90 degrees, so

$$F_R = \sqrt{F_1^2 + F_2^2 + 2F_1F_2\cos\theta} \text{ if } F_1 = F_2 = F$$

$$F_R = \sqrt{F^2 + F^2 + 2FF\cos 90}$$

$$F_R = \sqrt{F^2 + F^2}$$

$$F_R = \sqrt{2F^2}$$

$$F_R = F\sqrt{2}$$

So final the value of electrogravity constant $K =$

$$K = \frac{2 \times \sqrt{2} \times 100}{\pi R}$$

Where 2 shows two type of charge

$\sqrt{2}$ shows the F_R value

100 shows velocity range

shows gravitational wave effect $\frac{1}{\pi R}$

K is unit less value because it shows only force variation on body by property

Final gravitational force -

$$F_g = Kq^2B$$

$$F_g = \frac{2 \times \sqrt{2} \times 100}{\pi R} \times q \times \frac{2\pi R}{t} \times B$$

$$F_g = \frac{2 \times 2 \times \sqrt{2} \times 100 \times q \times B}{t \text{ (in second)}}$$

$$F_g = \frac{565.68 \times q \times B}{t}$$

Here t shows the time taken in completing one whole round in axis motion

$$\text{So final gravitational force of any planet } F_g = \frac{565.68 \times q \times B}{t}$$

Come now this of formula verification Do it and its See what we can change in physics with use-

III. EARTH GRAVITATIONAL ACCELERATION

Suppose we are a 50 If we observe kg body then electrons present in it = 1.5×10^{28}

Earth mass = 5.972×10^{24} kg

Earth second in one day = $24 \times 60 \times 60$ second

Earth magnetic field strength = 3.147×10^{-5} Tesla

Earth radius = 6357 km

NEW FORMULA

$$mg = \frac{565.68 \times q \times B}{t}$$

$$mg = \frac{565.68 \times 1.5 \times 10^{28} \times 1.6 \times 10^{-19} \times B}{t}$$

$$g = \frac{565.68 \times 1.5 \times 10^{28} \times 1.6 \times 10^{-19} \times B}{50 \times t}$$

$$g = \frac{565.68 \times 1.5 \times 10^{28} \times 1.6 \times 10^{-19}}{50} \times \frac{B}{t}$$

$$g = 9.88 \text{ m / s}^2$$

OLD FORMULA

$$mg = \frac{GMm}{R^2}$$

$$g = \frac{GM}{R^2}$$

$$g = \frac{6.67 \times 10^{-11} \times 5.972 \times 10^{24}}{(6357 \times 10^3)^2}$$

$$g = 9.85 \text{ m / s}^2$$

Reduce formula of gravitational acceleration -

$$g = \frac{565.68 \times 1.5 \times 10^{28} \times 1.6 \times 10^{-19}}{50} \times \frac{B}{t}$$

$$g = 2.74 \times 10^{10} \times \frac{B}{t}$$

where B = magnetic field strength of body in tesla

t = second in one day of object

A. Saturn Gravitational Acceleration

Mass of Saturn - $5.683 \text{kg} \times 10^{26}$

Radius of Saturn - 58232 km

Saturn one day - $0.44 \times$ earth one day

Saturn magnetic field - $1.462 \text{T} \times 10^{-5}$

NEW FORMULA

$$g = \frac{565.68q \times B}{t \times m}$$

$$g = \frac{2.74 \times 10^{10} \times B}{t}$$

$$g = \frac{2.74 \times 10^{10} \times 1.462 \times 10^{-5}}{0.44 \times 24 \times 60 \times 60}$$

$$g = 10.5 \text{ m} / \text{s}^2$$

OLD FORMULA

$$g = \frac{GM}{R^2}$$

$$g = \frac{6.67 \times 10^{-11} \times 5.683 \times 10^{26}}{(58232 \times 10^3)^2}$$

$$g = \sim 11 \quad \text{according to google}$$

$$g = 10.44 \text{ m} / \text{s}^2$$

B. Uranus Gravitational Acceleration

Mass of Uranus - $8.681 \times 10^{25} \text{ kg}$

Radius of Uranus - 25362 km

One day Uranus - 0.72 one day of earth

Magnetic field strength of Uranus - $2.023 \times 10^{-5} \text{T}$

NEW FORMULA

$$g = \frac{565.68q \times B}{t \times m}$$

$$g = 2.74 \times 10^{10} \times \frac{B}{t}$$

$$g = \frac{2.74 \times 2.023 \times 10^{-5}}{(0.72 \times 24 \times 60 \times 60)}$$

$$g = 8.9 \text{ m} / \text{s}^2$$

OLD FORMULA

$$g = \frac{GM}{R^2}$$

according to google

$$g = 8.87 \text{ m} / \text{s}^2$$

C. Prediction of Mars Magnetic Field

According to google and old formula the gravitational acceleration value of mars is $3.711 \text{ m} / \text{s}^2$ and the magnetic field strength is $1.5 \times 10^{-6} \text{ T}$

it's magnetic field strength is very low but it was not always so, it also has its own There was a magnetic field with a value of $1.2165 \text{ tesla} \times 10^{-5}$

But it suddenly lost magnetic field

$$g = \frac{565.68q \times B}{t \times m}$$

$$g = \frac{2.74 \times 10^{10} \times B}{t}$$

$$g = \frac{2.74 \times 10^{10} \times 1.2165 \times 10^{-5}}{(1.03 \times 24 \times 60 \times 60)}$$

$$g = 3.7 \text{ m} / \text{s}^2$$

one day of mars = 1.03 day of earth

Now the question arises Why did mars lose their magnetic field-

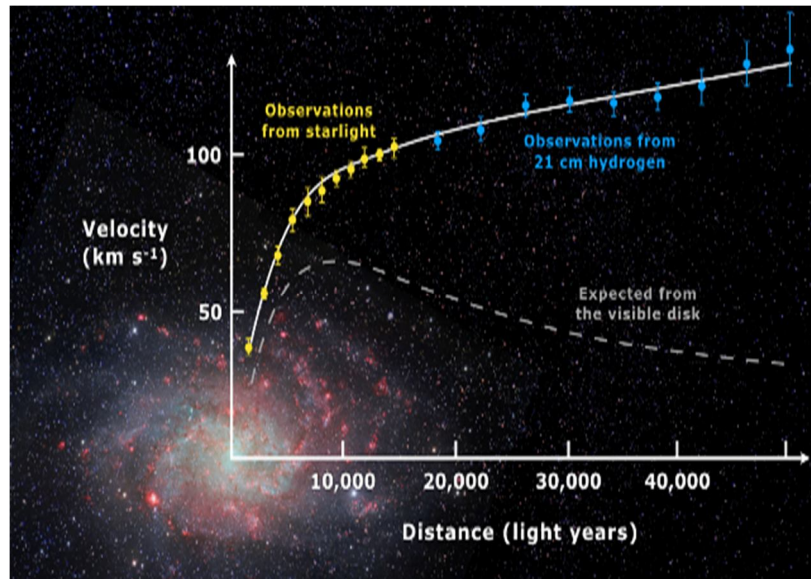
So we study it just upcoming research paper "HOW AND WHY PLANETS LOOSE THEIR MAGNETIC FIELDS"

Our now To understand the origin of MAIN FOCUS gravitational force and its dark matter-

IV. DARK MATTER

Before understanding this, first of all understand that where did the concept of dark matter come from total The concept of dark matter has come from the same diagram (graph), it is shown that as we move away from the center of the milky way galaxy, the velocity should keep decreasing continuously as the distance according to old formula but as we move towards the stars If you study

the data of moment and velocity and distance, we find $\sqrt{\frac{GM}{R}}$



As soon as we move away from the center of galaxy, the reason for decreasing the velocity of the object is constantly increasing. How is it possible that, to clear the concept, scientists put the matter of dark matter in galaxy and said that it cannot see the dark matter but We can see its effect as these increasing velocity.

But the problem is We are still searching for the existence of dark matter and till date we have not got such result in the experiment which can prove that any thing like dark matter exists. The dark matter is only in our observation thought.

Let's get it now We try to understand with the new concept of gravity.

As we know -

$$\frac{mV^2}{R} = \frac{GMm}{R^2}$$

Where is gravitational force $\frac{GMm}{R^2}$

If similar R (distance of body from center of galaxy) and mass of center of galaxy (black hole) To both keeping constant by increasing the gravitational force, its direct effect will be on the velocity of object.

But above It is impossible to increase the gravitational force without changing R and M from the formula. So now we use the new formula of gravitational force which we derive on the previous page again.

$$F_g = kqvB$$

this The formula k and q are electrogravity constant and charge of body respectively. Which will never change.

this In the formula, only V and B respectively, rotating velocity of object and magnetic field strength of body can be changed.

As we know that The magnetic field of planets, stars is the result of relative velocity of its core and outer core, means the same rotating speed is more and less of one, hence the magnetic field is generated as a result.

Those outside the Galaxy are far away from the center, due to their age, their magnetic field changes due to the core's outer edge and outer surface. Which increases the value of the gravitational force applied to it. As a result, its velocity does not match the velocity extracted from the old formula, and we name it dark matter.

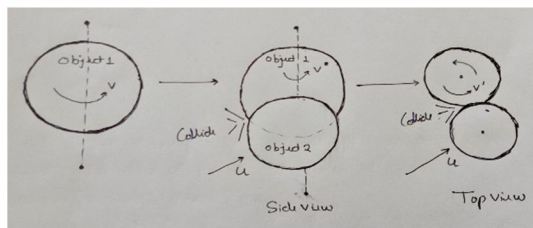
A. Prediction

Let's think two planets are both at the same distance from their star meaning same orbital, both have same mass but both have difference in cores means difference in their magnetic field, so their axis velocity can never be same.

Similarly from $F_g = kqvB$ -

If we somehow If the axis velocity of the object increases, we can change the gravitational force without changing the distance from its center and mass, so its gravitational force increases due to increasing velocity.

Let us understand how this is possible -



agreed object1 is moving on its axis with v velocity, after some time another object2 U velocity came and collide in the direction of the rotation of object1 which increased the velocity of object1 to v1. Therefore, the gravitational force increases as the axis velocity increases, as a result of which the speed of moving around its center increases.

V. BOTH OF THEM WE NAME THE EFFECT AS DARK MATTER.

A. Result

- 1) $F_g = \frac{GMm}{R^2}$ With if we also use $F_g = kqvB$ (maximum), we can study cosmos object more thoroughly.
- 2) By using $F_g = kqvB$, we can easily get the strength of the magnetic field of the object.
- 3) After reading this much, we come to the result that Gravitational force depends not only on mass of body and radius of body but also on magnetic field strength of body and axis velocity of body.
- 4) this Through the concept, we can easily understand the velocity rotational curve of spiral galaxy, a mystery of physics. Through this we also understand that The dark matter is a property of the gravitational force, which was hidden behind the curtain till date.
 - a) With it I can joint quantum physics with classical physics.
 - b) $F_g = kqvB$ (maximum)
- 5) $F_g = \frac{565.68qB}{t(\text{second in one day})}$
- 6) $g = \frac{2.74 \times 10^{10} \times B}{t(\text{second in one day})}$

REFERENCES

[1] The search for earth' gravity author Mr.Jerrystuger https://www.researchgate.net/publication/264457256_Earth%27s_gravity_explained_A_hypothesis_which_explains_Newton%27s_reservations

[2] dark matter Wikipedia https://en.wikipedia.org/wiki/Dark_matter#History

[3] Rotation around a fixed axis Wikipedia https://en.wikipedia.org/wiki/Rotation_around_a_fixed_axis

[4] Galaxy Wikipedia <https://en.wikipedia.org/wiki/Galaxy>

[5] Magnetic field Wikipedia https://en.wikipedia.org/wiki/Magnetic_field#:~:text=A%20magnetic%20field%20is%20a%20vector%20field%20that

[6] Gravitational time dilation Wikipedia https://en.wikipedia.org/wiki/Gravitational_time_dilation

[7] Death by Magnetic Field: the story of Mars Atmosphere <https://www.washington.edu/newsletter/spr-2016/xinyu>



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