

Gravitation

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ABSTRACT

This research paper going to explain the working principle of gravity force for matter. In the universe all the matters has its own property as the force of attraction. Some of theory are available for it. But no one was accurate still. Here we can understand the real reason for attracting matter each other. By this knowledge about matter we can complete the physics even also the quantum physics. We can study well deeper in material science. It can lead us to the anti-gravity mechanism.

I. INTRODUCTION

We are stick together with the surface of the planet earth by the force gravity. That the same force causes the earth orbits around the sun. The sun also orbits around the Milky Way. So the force of attraction was the main reason for existing our world like now we are seeing.

In the real case there is no force exist for matter attracting each other. It was a resultant effect for balancing action between two or more matter. Actually the two or more mass forced to move towards to their common centre between them for increasing their stability to travel in specific direction was known as the force of gravity.

All the matter were constructed by the force of gravity. For the understanding we are going to take two sample matter (it can be a particle or any atomic structure) and analysing the force of attraction between them. But don't forget the sample matter also constructed or build up by the force gravity with following same principle.

The famous physicist newton gives us the great formula $f = ma$.

The force will be equal to the amount of mass of matter multiplied with its acceleration. The matter can use the force in two types of motion at a same time. One was the rotation phenomena. The mass can rotate itself around its mass centre by using the given force with specific angular velocity. And another phenomena was moving in specific direction. The mass can move in a specific direction while making self-rotation like earth rotates itself while moving around the sun.

Consider the two sample masses m_1 and m_2 (for example like earth and moon or any other pair planets) both have a common centre (c). The mass

m_1 and m_2 can move along with the common centre in specific direction 'Z' (Δv). And it can rotate itself with some angular velocity (αv) around the common centre(c). The formula can be expand like

$$F = m_1(\alpha v_1) + m_2(\alpha v_2) + M(\Delta v) \quad \dots[1]$$

Here

$$M = m_1 + m_2.$$

αv_1 and αv_2 indirectly proportional to Δv .

If we consider the system rotating itself and moving in the direction 'Z', the given force not only used to move the mass m_1 and m_2 together towards to the direction 'Z'. It's also used for rotating itself. If the rotation process takes maximum amount of force the Δv in the direction 'Z' reduced due to the minimum force. If the rotation process takes lesser force the Δv in the direction 'Z' acceleration will be maximum. It was simply considered as equating process for given force. The rotating process consumed force based on the momentum of m_1 and m_2 masses. If the distance increased between m_1 and m_2 the momentum also relatively increased. If the momentum increases it needs more force to rotate itself. If the momentum exist lesser due to the short distance between m_1 and m_2 , then the Δv in the direction 'Z' will have high acceleration. Both are relative.

II. M1 AND M2 BOTH ARE EQUAL MASSES

In this case mass m_1 & m_2 both are having equal masses. Both are having common point as mass centre(c) with equal distance. Assume m_1 as section 1, m_2 as section 2 and mass centre as section 3. These three sections were considered as a system. The section 1 and 2 can rotate around the section 3.

The system can move together in the specific direction 'Z' with velocity (Δv). And the distance between m_1 and m_2 named as d . If d increases the angular velocity will decrease respectively and the momentum will increase. The velocity of the system was in-directly proportional to the rate of change of distance ($\Phi d/\text{second}$) between m_1 and m_2 . If the value of $\Phi d/\text{second}$ increases the velocity of the system (Δv) will decrease. If the value of $\Phi d/\text{second}$ decreases the

velocity of the system (Δv) will increase respect to the given force. If the distance between m_1 and m_2 remains as constant the velocity of the system will be constant.

The mathematical expression for the phenomena was

$$\text{System velocity } (\Delta v) = k / \Phi d s^2 \dots [2]$$

Here $\Phi d/s^2$ rate of change in distance between m_1 and m_2 per second.

K = angular velocity constant.

III. $M_1 \neq M_2$ (GRAVITATION)

In this case consider the mass m_1 , m_2 ratio $1x:1$ ($1x \gg 1$). Now the common centre will appears most nearer to the centre of mass m_1 due to the high mass ratio. The common centre and m_1 centre almost equally moves with same velocity in same direction. But due to the lesser mass ratio the m_2 needs to rotate around the common centre with $1x$ time greater angular velocity to compare m_1 mass. By the formula [2] if the Δv increases the distance between m_1 and m_2 should decreases. When we increasing the velocity Δv , m_1 and m_2 forced to moving towards to the common centre. But the mass m_2 moves towards common centre $1x$ times greater than m_1 mass due to the high mass ratio. When we are considered as falling objects as m_2 and earth considered as m_1 , the objects were falling on the surface of the earth by following this principle. The earth has highest mass to compare me. The common centre appears most nearer to the centre of earth. Due to the high velocity of the common centre earth and I forced to move towards it. Earth was need to minimum displacement to compare me. It almost negligible. But I'm always accelerated towards to the centre. It causes weight for mass.

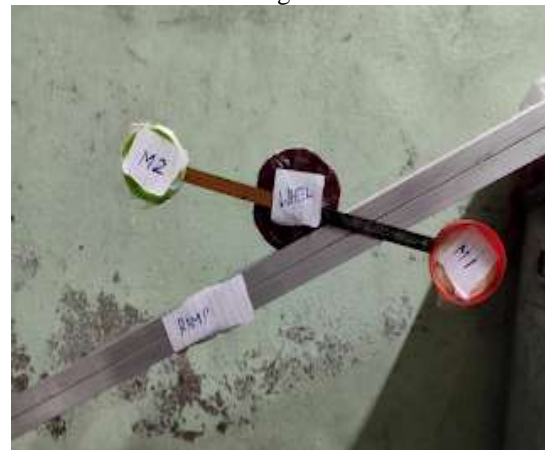
IV. EXPERIMENTATION $M_1 = M_2$

The experiment conducted by the setup which is have a one meter and 45° ramp and rolling wheel. The wheel has a arm with two equal masses m_1 and m_2 both are equal masses and adjustable distance between them by sliding on the arm.

Image 1

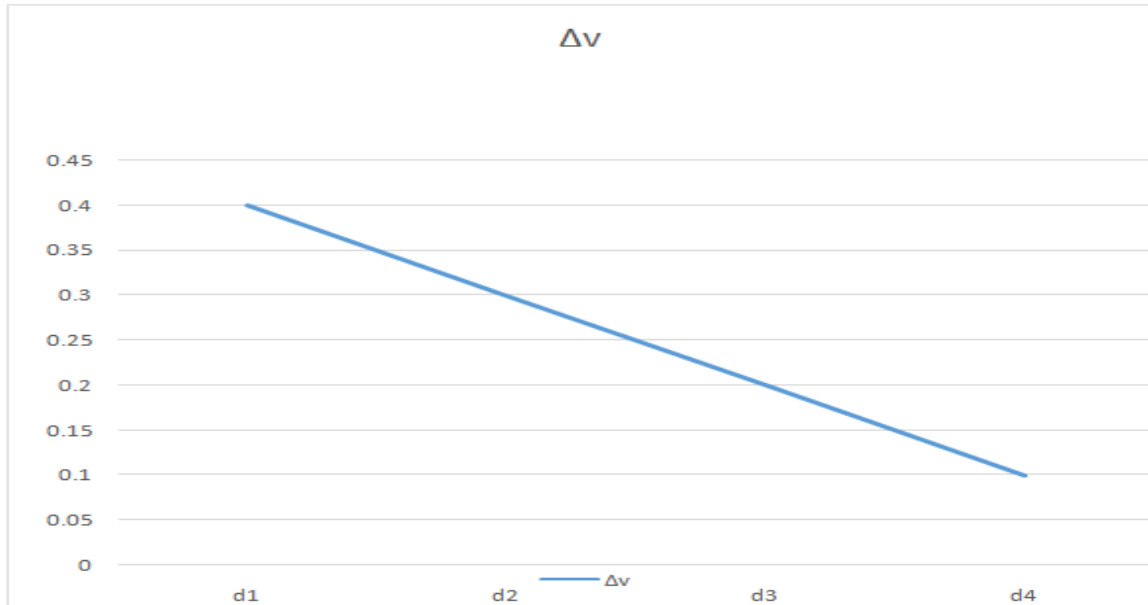


Image 2



Table

s. no	Distance between m_1 and m_2	Changing distance between m_1 and m_2 per second (Φd)	Velocity of system in direction 'Z' (Δv)
1	2 cm	0	5 seconds / meter
2	12 cm	0	5 seconds / meter
3	2 cm – 12 cm	1 second / cm	10 seconds / meter
4	12 cm – 2 cm	1 second / cm	2.5 seconds / meter



V. OBSERVATION FROM THE TEST

In the image 1 mass m_1 and m_2 were has minimum distance between them($d_1=2\text{cm}$). And in image 2 m_1 m_2 has maximum distance between them($d_2=12\text{cm}$). In both distances the setup has same acceleration towards to the ground ($\Delta v = 5\text{seconds/meter}$). But when we accelerate the masses m_1 and m_2 minimum distance to maximum distance (2 cm - 12 cm/second) while the wheel moving towards to the ground, the acceleration of the wheel was decreased(Δv decreased from 5 seconds/meter to 10 seconds/meter). If we accelerate m_1 and m_2 towards each other(12 cm- 2 cm), the acceleration of the wheel was increased (Δv increased from 5 second/meter to 2.5 seconds/meter). Here we can conformed Φd (rate of change in distance between m_1 and m_2) indirectly proportional to Δv (acceleration of the wheel). The table explains the rate of change in distance between m_1 and m_2 (Φd) directly makes changes in the velocity of the wheel towards to the ground (Δv).

VI. CONCLUSION

The experiment and result ensure the working principle of gravitation. The gravitation phenomena was the main reason for existing mass. It was common for quantum mechanics also. We can clearly understand how the objects were attracted by the heavier masses like earth attracting us. The velocity of the earth causes the objects stick to gather with it. That the same reason for sun attracting planets and it's common for all the universal products. Even the nucleus of the atom

attracting electrons based on this principle. It can be considered as working principle of our universe.

Some of the other information

The above result if understand by some any one part of the people in the world and if they support our self the anti-gravity mechanism will work on our sky as soon as possible.