

Cause of Gravitation and its Graphical Analysis

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Abstract: In this paper I am preparing a mathematical model for the cause of gravitation and its graphical analysis. This shows the relationship between the density, kinetic energy and gravitation.

Keywords: Gravitation, density, energy equilibrium, kinetic energy and energy exchange

1. Introduction

Since all planets, the sun, even the galaxy, we belong to and the other galaxies as well are in constant motion with respect to each other and with respect to the universe not only this, rather, universe as a whole has some definite speed of expansion. Now taking the case of our planet i.e., the earth it has a speed of 30km/s in its orbit .and with respect to solar system its speed has been found some 20km/s and with respect to galaxy its speed is detected some 400_600km/s and with respect to the universe as a whole its speed is 2.1_74.2km. Since the earth as a whole moves round its axis .the core itself, through in a molten state is also going through with it. Thus every atom thereof wants to attain the stable state at the very central position of the core. Because the instability of energy is created towards the end position. since the atoms at the very central position attain a stable state of energy are pushed to the ends by those atoms that have energy instability so that they became stable at the central position .And as such, these atoms that would have got stability at the centre and are pushed toward the ends getting an energy instability, produce such an effect to attain energy from other atoms so that to retain their energy levels... (i.e. A complete energy exchange takes place)). And this is a hiding principle of gravitation .Now this effect produced depends upon.....

The size of centre of celestial body.

Velocity of the centre revolving.

Size of the centre

Greater the size of the centre means greater will be the number of atoms producing such effect. The centre is, in fact, $1/5.2279508197$.the part of the radius of the planet or the celestial body.

Speed of the centre/celestial body:

Greater the speed of the centre/celestial body greater will be effect produced .because the atoms get unstable at a

tremendous rate and same will be effect produced by them on other atoms outside the centre they are associated to. The velocity of the centre in fact depends upon the density of the matter outside it. BECAUSE.

Different densities have different energy levels or in other words density has a specific energy level. SINCE,
 $E=MC^2$ _____(1) theory of Relativity

But $D=M/V$ _____ i.e. Density=Mass/Volume.

Mass= Density Volume _____(2) putting value of M from (2) in (1)

$E=DVC^2$

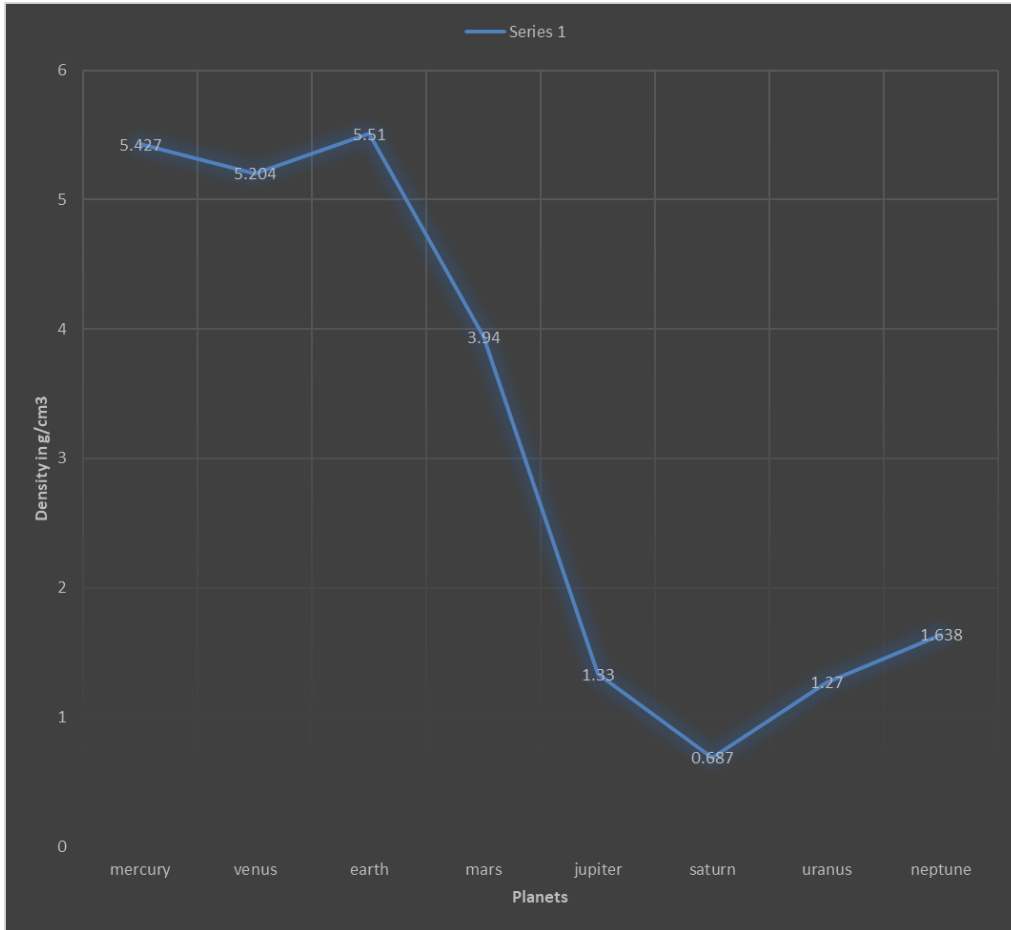
I.e. E directly proportional D and E directly proportional V
 [: C^2 is constant of proportionality]

Now E directly proportional D

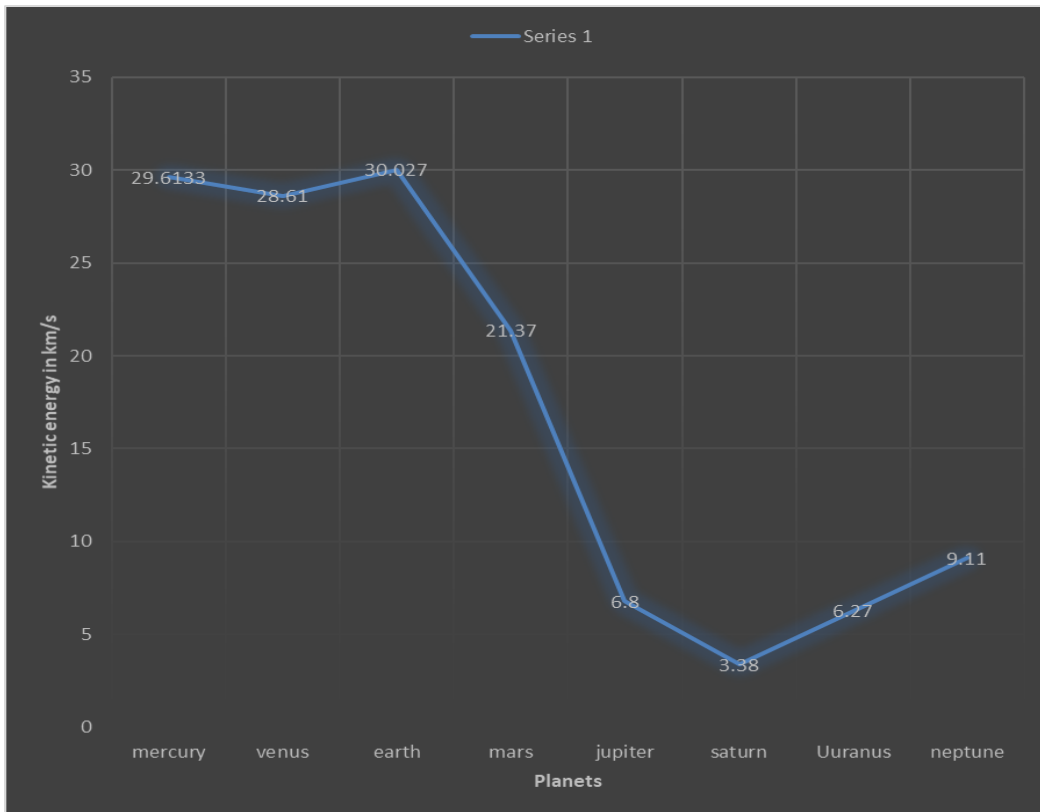
Treating E as K.E, we can write , K.E of the centre and hence the moving particles thereof is directly proportional to the Density of celestial body .Since the density has its own specific energy level and as such the K.E of the centre correspond to the energy level of the density of the matter outside it. Why so: the density outside the centre corresponds to the K.E that suits and is in proportion to the energy level of the density concerned. And conversely, the K.E of the particles in the centre produced their effect proportion to the K.E of the particles in the outer centre matter. Since the density of the particles outside the centre is high and thus their K.E is always high In comparison to K.E of the particles of the earth. Thus to attain equilibrium state between the energy levels of the centre and the outer centre particles, they produce an effect in according with the K.E of particles outside the centre and thus a sure cause of gravitation as well...

2. Graphical Analysis

Graphical representation of the K.E /speed acquired by the particles of the centre VS the density of the surface particles given below:



Shows that the two graphs are similar with each other hence supporting our view.....



Now the question arises can we change the gravitational pull or gravitational effect produced by the central particles of a body? And if so, How?

The answer to this question is very easy oriented by that too hypothetically. Suppose the surface density is increased, in turn the particles of the centre get effected and their K.E also rises and in turn we have a strong gravitational pull .Else if energy level of surface particles changes when and if ...They move on their own freely that two results in increase in the gravitational effect produced the centre particles.....

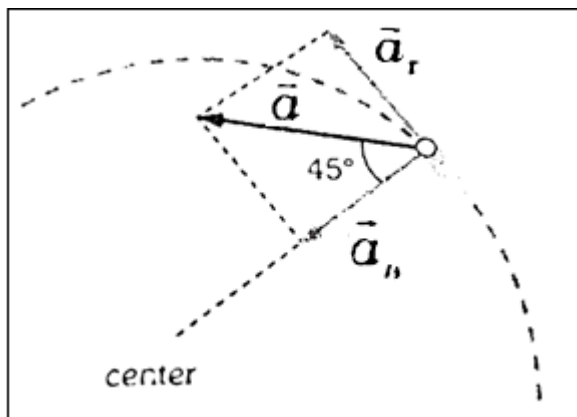


Figure showing the particles of the surface moving freely

2.2 If I formulate a formula

Here is a formula that gives us the appropriate value of gravitational force exerted by any celestial body. The formula is.....

$$F = Rc \text{ (1) [F force of gravitation, Rc Radius of centre]}$$

$$F = V \text{ (ii) [velocity of centre of body]}$$

$$F = RcV$$

$$F = RcV/sp$$

Where "sp" is constant of proportionality.

From the equation it is clear that...

$Sp = RcV/F$ [and it's units depend on the units of radius , velocity and force.....and its value has been determined to be $3734693877.551 \text{ ms}^{-1}/\text{Kg}$. It is clear from the equation that units of force are "N"....

As units of F, R and velocity are Newton, meter and m/s respectively.

$$1) F = RcV/sp$$

$$2) sp = RcV/F$$

$$3) 1\text{m}/1\text{N} \times 1\text{m}/\text{s}$$

$$4) 1\text{m}^2/\text{N.s}$$

$$5) 1\text{m}^2/1\text{kgm}/\text{s}^2 \times 1\text{s}$$

$$6) 1\text{m} \times \text{s}/1\text{kg}$$

Now putting this value in given = n

$$F = 1\text{m} \times 1\text{m}/\text{s}/1\text{ms}/\text{kg}$$

$$1\text{kgm}/\text{s}^2 = 1\text{N}$$

Hence justified.....

Energy exchange relation between energy exchange and gravitational waves;

When energy exchange between particles they create an effect on each other which is an attractive force in the form of waves. These waves are called gravitational waves and such waves are created due to the exchange of energy between two particles.

- 1) Greater the effect of gravitational waves greater will be the size of centre.
- 2) Speed of the center / celestial body; Greater the speed of centre greater will be the effect produced by them on other atoms outside the centre they are associated to. The velocity of centre in fact depends upon the density outside it.

Relation between kinetic energy and surface density in celestial bodies;

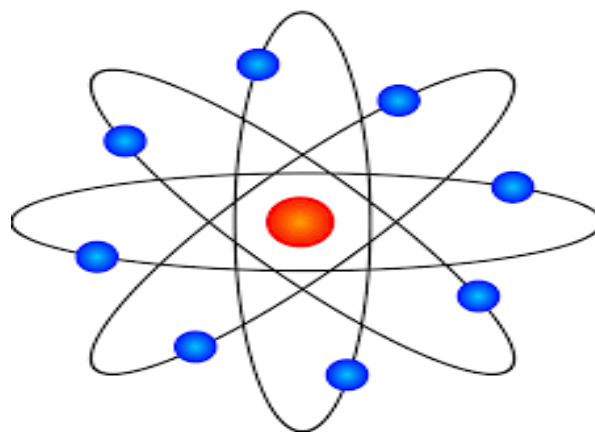
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Mass = Density Volume (2) putting value of M from (2) in (1)

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When celestial body attains energy which can easily superimpose with energy related to surface density and creates share in formation of gravitational waves. Through the mechanism of energy exchange between the particles in the centre



Force of gravitation at Atomic level

In atoms we saw, electrons are constantly moving round the nucleus in their concerned orbits. And the nucleus, you know , consists of protons which are positively charged particles .And the position change of these protons is responsible to set the negatively charged electrons in a circular motion round the nucleus. Not only this, the protons , themselves, get initiated due to the force exerted by the electrons over them, in turn Quite ultimately, every electron as well as the protons tries to attain a more stable position .OR in other words, that position where their respective energy level gets more stabilized. Since that position is core or the centre or the nucleus, itself. But the electron can't enter that centre because of their orbital energy binds them there at their concerned shells. So, it is possible only for protons. And because of the moving phenomenon of the protons, every proton tries to get the innermost more stable, position, in the nucleus .And as that is attained, the other protons that are trying to do so it towards the border of the nucleus. The stable position with least energy to the position where its energy is quit unstable, results in an effect that we all known to be gravitational force.

- The factor that determines this gravitational force here are.....
- The size of nucleus especially it's radius. *.II.* Stable high energy level.....
- The Radius: Greater the size or greater the size of nucleus, Greater will be the no of protons producing such effect. In an atom as a whole.....
- Stable high energy level:- Greater the energy levels of shells , Greater will be the effect produced by these on the protons moving inside the nucleus and in turn, Greater will be the difference between the stable and unstable energy levels of the protons and hence greater will be the gravitation effect produced by them.....
- Since electrons are negatively charged particles and they induce an attractions pull on the positively charged protons only i.e. only protons in the nucleus are moving and not the neutrons as they don't share any charge!!!!....

Black holes

What happen when black hole originates. The surface density of a dying star increases and attains high energy level and the gravitational effect increases.

References

- [1] Gravitational potential difference. The gravitational potential difference between two points is the work done in moving a unit mass from one point to another
- [2] Second law of thermodynamics. States that 'in all energy exchanges, if no energy enters or leaves the system,the potential energy of the state will always be less than that of initial state'.This is also commonly referred to as entropy
- [3] Equilibrium and potential energy:-The potential energy is at a local maximum,which means that system is unstable.