Derivation of Planck particle mass by Sir Einstein methodology

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Abstract

In this paper, primary focus on to derive Planck particle mass . Take some formulas first wrote down on blank paper and do planning for how desired mass can be derived. Beside the way during the whole scenario, obstacles comes out such as how velocity term can be derived because i don't know the velocity value or this is unknown yet. So i use other formula called mass variation formula to create velocity term and then put out the unknown velocity in this velocity, this will ease the calculations and our path more directed towards Planck particle mass. On the basis of derived mass, put new thoughts on Planck particle and black hole.

INTRODUCTION

Have any box, put force on it and this box especially mass feels movement, this term generally called acceleration. Newton laws states all this scenario such as

first law, second law and third law. If use brain work done can be derived from the force. In such way, multiply distance by force. This work done such like that as man initially at location a and moved to other location b. Planck created a unit name called “Planck mass”. Scientists worked hard from thousands of years to find the existence of this unit. I heard that Planck mass depends on own Planck constant (h), constant of light (c) and on gravitational field (G) too. All these in such a way that under root of these terms gives “Planck mass” . Although mass and force have a deep relationship from beginning of the world. On this assumption, Planck another unit called Planck force, which is equals to the ($\frac{Gm^2}{r_G^2}$), Where r_G^2, is the gravitational radius. In any way, relates gravitational radius to the Schwartzian radius, in such a way divide 2 by Schwartzian radius, this will give bizarre gravitational radius value, like that ($\frac{Gm}{c^2}$), c^2 is the bizarre discovery by Professor Einstein, which means velocity of light.

Although, some main constants value like that,

Planck mass	21 micrograms
Planck constant	6.622607004 ×$10^{-34}m^2$kg/s
Gravitational constant	6.67408×$10^{-11}m^3kg^{-1}s^{-2}$

Without wasting any time, move on to experiment; consider any body exists in space, who experiences Planck force, in such a way,

$$F_p = \frac{Gm^2}{r_G^2} \qquad \text{- eq(1)}$$

If we successfully finds a Planck force, work done can easily be finds out,

$$W = F_p \times \mathrm{d}$$

But when we try to find out the work done, we first find small work done, so small work done can be given as,

$$dW = F_p \times \mathrm{dx}$$

Use equation(1),

$$dW = \frac{Gm^2}{r_G^2} \times \mathrm{dx}$$

But i know normal work done such as like that, ($W = F \times \mathrm{d}$) and small version of this,

$$F \times \mathrm{dx} = \frac{Gm^2}{r_G^2} \times \mathrm{dx}$$

In normal way force can be gives as,

$$ma = \frac{Gm^2}{r_G^2}$$

Where, a is the acceleration, which equals to the ($\frac{dv}{dt}$), so,

$$m\frac{dv}{dt} = \frac{Gm^2}{r_G^2}$$

$$\frac{dv}{dt} = \frac{Gm}{r_G^2} \qquad \text{-eq(3)}$$

Don't know the value of $\frac{dv}{dt}$, so this problem can be solved by using other formula which relates mass to velocity. Although may know, mass variation formula. Take a mass and after some time variation can be seen in that mass, this means mass becomes smaller. Some beliefs, states that some of the actual mass turns into energy. Without any wasting of time, move on its formula, ($m = \frac{m_0}{\sqrt{1-v^{2/c^2}}}$), Where m_0 is the mass from origin and variation causes this mass becomes m. Mine motive is to use this formula and successfully derived the desired result. For this purpose, modifications can be applicable. On the basis of this assumption, above formula can be rewritten as, ($m = \frac{m_0}{\sqrt{1-v^{2/c^2}}} - m0^2c^2 + t$) -eq(2)

Although, here considered the mass ($m0^2$) with c^2 is the Planck particle rest mass energy and if variation comes in any body with that time consumption is obvious. First use ($m = \frac{m_0}{\sqrt{1-v^{2/c^2}}}$) formula,

Squaring both sides,

$$m^2 = m0^2/1 - v^{2/c^2}$$

Simplify this,

$$m^2(1 - v^{2/c^2}) = m0^2$$

$$m^2(\frac{c^2 - v^2}{c^2}) - m0^2 = 0$$

$$m^2(c^2 - v^2) - c^2m0^2 = 0$$

See the equation(2) and rewrite the above equation,

$$m^2(c^2 - v^2) - c^2m0^2 = -c^2m0^2 + t$$

$$m^2(c^2 - v^2) = t$$

Derivative both sides with respect to time because this will create an option for $(\frac{dv}{dt})$,

$$m^2 \frac{d(c^2 - v^2)}{dt} = dt/dt$$

$$m^2 \left(\frac{d}{dt}c^2 - \frac{d}{dt}v^2\right) = 1$$

$$m^2 \left(-2v\frac{dv}{dt}\right) = 1$$

But i know $\frac{dv}{dt}$ by using equation(3),

$$m^2 \left(-2v\frac{Gm}{r_G^2}\right) = 1$$

$$m^2 = \frac{1}{-2v\frac{Gm}{r_G^2}}$$

Multiply and divide by v because this will give velocity term in numerator, this will further acts as a velocity of light, so,

$$m^2 = \frac{v}{-2v^2\frac{Gm}{r_G^2}}$$

Let assume, in numerator velocity is equals to the velocity of light,

$$m^2 = \frac{c}{-2v^2\frac{Gm}{r_G^2}} \qquad \text{-eq(4)}$$

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Although, on relating gravitational radius to Schwartzian radius and i will have nothing to which i approached the desired result, so don't do this,

Above equation cleared that Planck particle must be doubled in mass of electron, if the mass (m) in denominator is of electron mass. Also predicts this (this mass must be of electron) by negative sign because i heard that electron mass can be negative.

Simplify the equation(4),

Where, $(\frac{mv^2}{r_G})$, is a centripetal force (F_c), if r_G is equals to r, so,

$$m^2 = \frac{cr_G}{-2F_c}$$

Although, Planck particle mass (m_p) doubled of electron mass, such like that,

m_p = mass of electron × 2

= 9.10938356 × 10^{-31}kg × 2

= 18.21876712 × 10^{-31}kg

Which is nearly equals to the 21kg and Planck mass (= 21micrograms) by Planck.

Although, equation (4) cant relates to Planck constant but results are nearly approachable to the desired result.

FURTHER EXPLAINATION ON PLANCK PARTICLE REST MASS ENERGY

It is cleared that Planck particle rest mass energy is the result of two masses with negative sign showed the release of this energy. Consider this energy, due to neutron and proton in an atom. Neutron, proton and electron are the constituent of an atom. Without these atom cant be exists. Heard that proton and neutron causes nuclear fission and fusion. Put attention on Bohr atomic model, electron absorbs energy, if goes to higher energy shell from lower's one and light consists of photons. Electrons absorbs this light energy and when electrons falls from higher energy shell to lower energy shell, electrons release this type of energy in the form of electromagnetic radiation. On the basis of assumption, remove the proton and neutron from an atom. Now this atom, not acts like an atom. If anybody having mass (equals to the product of masses of proton and neutron and more than). Now, above non-atom acts as an Bohr atom. Considered whole atom as a Planck particle rather than masses combination of proton and neutron . Moreover, atom without neutron and proton (generally non- atom) called a black hole. And think this is the reason cant see black holes unless anybody tries to enter into the black holes. But bizarre case is that scientists considered the tiny black hole is an Planck particle. If anybody having mass (equals to the product of masses of proton and neutron and more than) successfully entered into the black hole, electrons should rotates in own shell and some of may tries to go to higher energy shell by absorbing light from space and similarly when electrons fall back to nucleus , may see light and heat emittion at the equator of the black hole. As mass entered the black hole, this mass turns into two masses (one of the mass acts as a neutron and other as a proton). Hence, above masses must be of

neutron and proton speed respectively. Movement of electrons in an orbit causes (current flows in the direction opposite to electrons). By faraday law, through any

coil experiences current and i tried to put any piece of iron. This iron acts a magnetic itself. If electrons rotates in clockwise direction, this causes magnetic field must be in outward direction and think this is the reason, feels magnetic field outwards from black hole.

In very beginning , considered the $(-m0^2c^2)$ is the energy when any mass $m0$ turns into energy and this energy further absorbed by any other mass m0 (which is equals to the electron mass) and negative sign showed the release of the energy. In other words, electron releases energy which consists of photons. But photons are mass less. So, considered this thought was wrong.

Generally, mass of atom = mass of proton × mass of electron × mass of neutron

$$= 1.6726219 \times 10^{-27}\text{kg} \times 9.10938356 \times 10^{-31} \times 1.674927471 \times 10^{-27}\ \text{kg}$$

$$= 25.5201235 \times 10^{-85}\text{kg}$$

Mass of non – atom = mass of electron × mass of unknown

Where, unknown is the body who tries to enters the black hole. Consider, this body mass equals to 2kg, so,

Mass of non – atom = $9.10938356 \times 10^{-31} \times 2$ kg

$$= 18.21876712 \ (= 21\text{kg})$$

In this paper, calculations are based on the rough work. My main motive is to take some basic formulas and trying to derive desired formula. All the situations are created in such a way that fits the whole scenario to find the Planck particle mass.

CONCLUSION

Atom without neutrons and protons (generally, non-atom) called a black hole. If, considered the atom nucleus as a solid, this called Planck particle.

ACKNOWLEDGEMENTS

I thankful to Sir, Einstein . By whose biography red and have an passion to write first paper.

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