

((In the name of God))

(Theory of electromagnetism and the light)

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Abs tract

This article is about atoms and their particulars in equations. There are lots of equations from this subject that they have given by different scientists. For example one of those equations is the Planck equation that is for calculating the electron's momentum in the atom and we can add mechanic's statistic for some or all place's of electron in the atom.

In this article I want to say my theory about the atom and electrons that they're in the atom and are moving around the nucleus. From the all I have a different theory about the modern physics. By this theory even we can explain the reason of the force gravity between the objects .first of all I should say that in these equations about my theory has used from some constants like the "Fermi" constant. Now we start the explain of theory: In the atom there are many balances of the electron that electrons are moving there. Now we use the formula of the Bohr that is from the atom and the electrons level. That is:

$$E_n = E_R/n^2 \propto r = a_0 n^2 \quad (1)$$

That n is $\{2'3'4'5'6...\}$ and we can develop these equations to :
 $a_0 = h^2/4 \pi^2 m k e^2$ and this equation comes from the formula
about (k) and the “stationary” circuits of electrons that some of
them are here but we don't want to explain them in this article :

$$E_{\text{electron}} = K + U = mv^2/2 - ke^2/r = (rmv^2 - 2ke^2)/2r \quad (2)$$

and because the electrons (on the circuit's stationary) are moving and classically we have: $F = mv^2/r$ (that's because the a in each place of the circuit is to the center and that's $=v^2/r$ and at all of the places we have $F=ma$ so we will have $F=mv^2/r$) and in the atom we mix this formula with the “Hock” law about the spring and after that we extension that to these formulas. We have in the Hock law that $F=-k x$ and the negative mark of the law is for the third law of the Newton that when we enter a force to the spring it will enter a force as the same that and in the different sign. So here we have the same on subject but with difference subject about the place. There was a classical place but now we want to use it in the atom. Also in the atom we have two object that they are forcing each other (Of course there are many small object in the atom that they have the force gravity like neutrons but the neutrons don't have the electrically force and in these equations we need the electrically force of small matters in atom. Because except the gravity force also is the electrically force effect on the atom and the electron. So we need that in a part of this article calculate the electrical force and the electrical field.) here we define the force between the electron and proton nearly the Hock law about the classically place and

we use the classical law here not the relativity law that end of them we should guess the place of the electron and we should add many statistic to define the place of the electron after pass the time shows with Δt or the angel that electron pass around the nucleus that define the angel momentum. We will have:

$$ke^2/ r^2 =mv^2/r \quad (3)$$

That's because we have used from the coulomb law that in it is the (e) instead of (q).So we can infer from the equation 3 that:

$$mv^2/ 2=ke^2/2r \quad (4)$$

That here we multiplied two sides of equation 3 to (r/2).Now we use equation 4 for equation 2 and then will infer:

$$E=K+U= ke^2/2r - ke^2/r = (ke^2 - 2ke^2)/2r = - ke^2/r \quad (5)$$

Now we inferred the energy of electron on the stationary circuit in the atom that the mark of that always is negative. The mark is negative because during the turning of electron around the nucleus the proton entrance a electrical force to electron that has the opposite mark than the electron and always it is equal to electron. Now here we can calculate the angular momentum from the electron (these calculating are good for infer my equations about atom and the light):

$$L= r \times p = (r \vec{\ } \times v \vec{\ }).m = r^2 \omega m \quad (6)$$

(That here $v=r \omega$)

Now we want to investigate the components of the electron's velocity on the circuit for calculating the acceleration of electron that is to out of the atom: (we calculate by the ω 's explain and the angular velocity): we consider that the electron has the angel that ($\theta=0$) so we calculate this by the torque of electron that is:

$$\tau = r \times F = rF \sin\theta = 0 = \text{const} \rightarrow \tau = \int dl/dt = \text{const} = L \quad (7)$$

So we will have:

$$r^2\omega m = \text{const} \rightarrow r^2 2\pi m/T = \text{const} \rightarrow \Delta L/\Delta t = r^2 2\pi m/T \quad \Delta t = \text{const} \rightarrow (\text{for the surface's element}) \rightarrow s = (1/2)r^2 (\Delta\theta/\Delta t) \quad (8)$$

So for the electron to classically we'll have the same equations but to difference that the electron is too small and for the intensity many of them we have:

$$i = e/T = e/(2\pi/\omega) = e/(2\pi r/v) \quad (9)$$

$$\mu = iA = (e/(2\pi r/v))(\pi r^2) = erv/2 = (e/2m)(mrv) = (e/2m)L \quad (10)$$

So we inferred the angular momentum of the electron.

Now we try to infer my equations for the atom and then we can extension them to the light and mechanism of that.

In my theory consider that the atom is stable by moving the electrons on the circuits and there is a mass for the atom and electron by moving likely the first Newton's original and the atom is stable by moving the electron so quickly from one side of the circuit to another side that it's position is 180° turning and I think that the gravity between matters is from this subject. In

fact the electron by moving itself make an acceleration behind itself that I think that acceleration is that can do very works like make a gravity between matters and that acceleration can tense the things to itself and the reason of that is because the electrons in the atom is so and there are many stationary circuits so the statistics that the directions of many electrons don't be to opposite is so less and when the opposite directions arrive to other tense together. In fact because in the electromagnetism theory of the light we consider the electrical field and magnetism field we can extent my theory to this subject of light to this way. For example we consider the first circuit of electron in the atom with second circuit that they are considering on the wave. So we will have the sinus wave for the electromagnetism of the light that this wave have made from the circuits of the electron in the atom that when the electrons of the molecules of around coming next to other could made the sinus wave or the electromagnetism wave can have made from the electrical field or magnetism field that those fields brought from the atom and fields of the electrons and I think to an opposite way from the Maxwell about the theory of the being electromagnetism wave of the light. My idea about the electromagnetism mechanism of the light isn't that the electrical field and magnetism field came from the first source of them and we don't need to the ether that is the bearer of the light. My idea is that we need the ether and my theory that spoke about that in this article depended to this subject that should be the ether. We can proof it from the Ampere's law that we need a matter:

$$\begin{aligned}
\int \mathbf{B} \cdot d\mathbf{s} &= \mu_0 i && \rightarrow \text{(we can calculate with (s) function)} \rightarrow \\
B \int ds &= \mu_0 i && \rightarrow B (s^2/2) = \mu_0 i \rightarrow B s^2 = 2\mu_0 i \rightarrow \\
B &\propto \mu_0 \propto s \propto m && (11)
\end{aligned}$$

That here we should have a mass like ether and easily we infer that (from coulomb and Faraday law) around each mass there is fields.

Calculation

Now we want to calculate my theory by some constants like Fermi. We now that the distance between the electron and proton (or we can consider the nucleus) at the first balance of circuits of the electron (or we can consider that; the distance between the proton and electron in a hydrogen atom) is:

0.53×10^{-10} meters. And we have:

The diameter of the proton in the atom (that is a Fermi) is 10^{-15} m

And we have:

Electron velocity on first balance in **the** atom (or on the balance of the electron in the hydrogen atom) is about 2.42×10^8 cm/sec.

Now we write: $L \propto p \propto v \propto r \propto x \propto t \rightarrow 2.42 \times 10^8 \propto 1 \text{ cm} \propto$
 $x \propto 0.53 \times 10^{-10} \times 2\pi \approx 3.3284 \times 10^{-10} \propto 1 \text{ s} \propto T = 2\pi/\omega$ (12)

$\omega = 2\pi/T \approx 6.28/T \rightarrow T = 3.3284 \times 10^{-10} / (2.42 \times 10^8) \approx$
 $1.3753719 \times 10^{-18} \rightarrow \omega = 6.28/T \approx 456603773.9$ (13)

And from equation 10 we have:

$$L=2\mu\text{m}/e \rightarrow [2 \times (1.26 \times 10^{-6} \text{ H/m})(0.511 \text{ MeV})] / (-1) = -1.287 \times 10^{-9} \quad (14)$$

A power reason why the mark of the angular momentum is negative

As you saw in the equation (14) we calculate the angular momentum to negative way. Now we want to explain why the mark is negative. This subject is opposite of many other subjects. Because in the other subjects we always most get the angular momentum to the positive way and from the calculation we can calculate this. But in this calculation the negative mark of the momentum shows us a new subject. In the theory of the atoms of mine that we have spoken about that in this article, because the electrons create very position for that the atom be to stable way we can infer that the all of atoms want to do something about stabling of the atom and their velocity is so more so we can say that at all of the times an electron can enter the force to one side of the nucleus and protons. Not that we calculate the sum's force of electrons at all times in the atom and then calculate proton's forces and then enter them to each other.

In this theory we should not that consider the electron's circuits to statistics way and we don't need to consider the set of electrons in a place f the circuits to a cloud of the electrons and put its name "a statistic cloud of electrons". In this theory we

should t not consider the set of electrons in a place and we should calculate the electron's places one by one but we don't say that the electron's velocity is so less and we shouldn't that say this subject is so classically and we should consider that the electron's velocity is so more than for example the proton. This subject has a name in the modern physics that is "Uncertainly principle ". But in this theory we calculate to another way that is near to classically theory. We don't want to check this subject in this article because in my theory we should calculate many things and we'll calculate it to another article.

Another easily proof for the negative mark

This equation shows us that the angular momentum has the negative mark that's because also the proton inter an electrically force to the electron and this force has the opposite direct with the electron direct and for this the force inter to opposite side and we should add the negative mark. One question that may be here this is: Why we should inter the protons position in our calculating from the electron. The answer is that because we have to thing in our calculating that have the fields like electrically field or magnetism field that are proton and electron. These are effecting to each other. Of course also the gravity of them is effecting to them and because the proton mass is more than the electron mass so the gravity that its vector has the opposite direction to the electron is so more than the vector opposite direction to the proton.

Now we want to extend equation (14) to the torque of the electron. For this we remember equation 6 that also have inferred the angular momentum classically. It's important in our calculating here that consider a system that has the specialities of electron and proton (both of them) because as have spoken in this article a force enter to the proton (of gravity and electrical) and also a force enter to electron from proton in opposite direction than the electron to proton. So we write that:

$$L = m_p v_p \tau + m_e v_e \tau \rightarrow dL / dt = m_p (dv/dt) \tau + m_e (dv/dt) \tau \rightarrow$$

$$dL = \tau (m_p dv + m_e dv) \rightarrow \tau = dL / (m_p dv + m_e dv) \quad (15)$$

Here we wrote the derivative of the momentums (angular and leaner) of the proton and electron in a system. Now we want to calculate the partially derivative of them because they are too small and this derivative is better than and is good for considering the differential of the proton and electron. So we'll have:

$$\partial \tau = \partial L / (m_p \partial v + m_e \partial v) \quad (16)$$

Now also we calculated the partially derivative. The (dL) because is too small and it should be constant at all of the circuit about proton and electron (because we have : $F_{e, \text{everyplace}} =$

$F_{p, \text{everyplace}}$) so we now that a number that its derivative is itself is (e) and we can write:

$$\tau \propto e$$

$$\partial\tau^2 = [\ln^2_{v,e,t} e^2 \ln^2_{v,p,t}] / (m_p dv + m_e dv) \quad (17)$$

The power of τ here was 2 because the force of power (likely the $r \times F$) enter from to direct. Here for numbering calculating we add the (dt) to the issue of the ($m_p dv$):

$$\partial\tau = [\ln^2_{v,e,t} e^2 \ln^2_{v,p,t}] / [m_p (dv/dt_v) + m_e (dv/dt_v)] = \quad (18)$$

$$\text{invoice} / [m_p [v (dv/dv)] + m_e (v (dv/dv))] = \text{invoice} / [v(m_p + m_v)]$$

Here we could proof that when we want to take the differential of the moving of electron and moving of the proton we can consider (v) not (dv) and we have $(\frac{v}{dv} = \frac{1}{dt})$ because the (v) and (t) have some communications between them self and we for getting the (dt) should divide the dv on the v because we want to find the dt that is so little and the v is big and again the dv is so little and when we divide them we can arrive to the little parameter. So for the $\partial\tau$ we have:

$$\partial\tau = [\ln^2_{v,e,t} e^2 \ln^2_{v,p,t}] / [v (m_p + m_v)] \rightarrow \partial\tau =$$

$$3.5500 / 1.2 \times (0.511 \text{Mev} + 938 \text{Mev}) =$$

$$3.5500 / [1.2 \times (938.511)] = 0.0031521562 \quad (19)$$

As you saw in this article we could two important constants. one of them is equation 13 about (ω) and another one is this equation (19) that's about ($\partial\tau$). In fact these equations are the roots of my theory and we could calculate them. Now write them again here:

$$\text{The const } (\omega) \rightarrow 456603773.9 \text{ (cm}^2/\text{t)} \quad (13)$$

$$\text{The const } (\partial\tau) \rightarrow 0.0031521562 \text{ (1/Mev)} \quad (19)$$

The way for using the constants

Now consider that we want to use the constants. We should calculate all places in the atom for example and then finally we add the calculation of the constants. Because in my theory all of things depended to the move of the electron we should multiply the ω to some of the equations or also about the $\partial\tau$. For example in an equation we are considering the torque of the electron or the angular velocity of the electron. Likely these examples we can add straightly the constants but in this theory we should multiply the constants in all of the equations to the equations be correct but in difference multiplies.

The equations for the light

In this theory also we can calculating something about the light like the speed of that or..... In this theory consider that the wave of light coming from the wave of moving the electron in the atom and the electron's wave make a wave of the light and this wave is an electromagnetism wave of light. Remember that in the past paragraph we was speaking about the examples of where using the (ω) and $(\partial\tau)$. A good example is defining the light velocity. For this definition at first we should consider the const (e) nearly the (2.61) not (2.71) that is a little offense about

a very big speed like speed of light. Now we write the equation of that:

$$[e / 2] \times [\omega t / 2\pi] \rightarrow [(2.615803797587395877) / 2] \times$$

$$[456603773.9 \times 0.0031521562 / 6.28] \approx 299752.4582 \text{ km/s} \quad (20)$$

We used (e) in this equation likely we had used it in equation (17) because also here we need to use from L and ($L \propto e$) so we used it and because from all we have four main direction in the circuit of the electron that makes the light and two of them are in the direct of the light so we choose two of (other) them that with the axis makes the angle 90° so we divide (e) two. From other expression on the write side of equation we should multiply the constants because they are in a direction and we divide to (2π) because it's calculating with radian of the circuit wave. In this equation we got ($e \approx 2.61$) because there are an other forces that are entering to the electron from other masses that because they have the opposite direction so decrease from the first force of electron. The decreasing calculate with calculating the multiply ($2e$) that it should be equal with the spin of the electron in a circuit that is nearly (1.2) and we should multiply (4×1.2) because we have for direction that two of them have used in the direct of the light and we should clear the added mass in this equation. You can see in this equation that we don't need to calculating any mass in any place of that and we can infer that the light wave is an electromagnetism wave and we don't need to the mass for the self of the wave. But we need to a mass for

carrying the light but we don't say the light itself is a matter. This subject that the light for moving need to the ether had proof in equation (11).

The gravity theory of this theory

As we said we can calculate something about the gravity with this theory. We spoke about this subject that in this theory we should consider for atom that the atom is stable with moving the electron around the nucleus and in this theory we should consider that at the back of the electron that moves around the nucleus there is a behind force that we can explain the gravity fields by this force and we should consider this force at all of calculating about our problems to system of this theory. Except of that the force is behind the electron we can consider that also there is a force in front of the electron and by these forces we can explain the gravity. Now we can add some calculation about gravity between objects to this system. Now we can consider the gravity mix to the angular momentum. We'll have:

$$F_{e,p} = [(G m_p m_e)/r^2] L_e \rightarrow (\text{we derivative of the angular momentum}) \rightarrow [(G m_p m_e)/r^2] (dL/dt_L) \quad (21)$$

Now we calculate this equation by numbers. We'll have that:

(here we have the (dt) to system by the (dL) so we should consider that (ΔL_t) and because the L and the t are too small and we can consider them at a parameter) we'll have:

$$[(6.67 \times 10^{-11} \times 938 \text{Mev} \times 0.511 \text{Mev}) / (0,53 \times 10^{-10} \text{m})] \times (-1.287 \times 10^9) = -7.7634051 \times 10^{11} \quad (22)$$

As you see we could get the gravity between electron and proton that is negative and is like Newton's third law that we have:

$$F_e = -F_p \quad (23)$$

Also we can infer the force capacity in electron from proton or proton from electron. Now here we write this force to the classically way. We'll have:

$$F_{\text{pot}} = [(Gm_p m_e) / r] L_e \quad (24)$$

Also here we can put the numbers instead of the letters and the get the (F_{pot}) to a number. (Like the way that we had used in equation 22)

Type equation here.