THE NEW PHYSICS WITHOUT THE CONCEPT OF ELECTRIC CHARGE

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Abstract: With the methodology as we developed it and which is actually a continuation of the ancient Greek philosophers, we set principles and a new atomic physics is being built.

The hydrogen atom consists of two particles of equal mass and charge bubbles of dilute ether, orbiting each other. Electric currents of parallel conductors with opposite charges are created and the wandering particles are attracted. In fact, attraction is magnetic and electric charge is magnetic quantity. The magnetic, electrical and gravitational forces are integrated.

With solid mathematics, it turns out that the rotation of magnetic quantities is inverse to the cube of their radius.

Hydrogen atoms emit their spectrum excitedly and have a small mass, and there are thousands of them, forming a grain of hydrogen atoms. And its mass is what physics determined and accepted for the proton.

The e/m ratio Thompson found experimentally is confirmed by the ratio of charge we found for the hydrogen atom to the mass of a grain of hydrogen. Thompson in his device emitted ionized hydrogen grains with a charge of one hydrogen atom.

The ion-grain charge in mass spectrographs is what Millikan found in his experiment and is much less than the charge of the hydrogen atom, or ionized grain in the Thompson experiment.

Keywords: new atomic physics, hydrogen atom, Electric currents, electric charge, magnetic quantity, Thompson experiment.

1. INTRODUCTION

In early physics, magnetism was thought to be due to a magnetic fluid in magnets. And the electric charge was an electric fluid, negative and positive, that flows into a body and becomes electrically charged. Body heat is due to a hot fluid, the flame.

Magnets exist in nature and become artificial. The flame of methane combustion increases the temperature and heat of the body (e.g. pot). But the "electric charge" is produced by rubbing woolen cloth against an ebonite rod, or glass, or rubber, etc. The ebonite rod repels another grated rod, the grated glass rod attracts the grated ebonite bar, etc. This attraction, or repulsion, led physicists to believe that it is due to two kinds of electrical charges-fluids, negative and positive.

We will challenge this theory of the existence of charges and build physics where it is needed, in the sense of magnetism alone and magnets are a physical fact! And we will unify electric, gravitational and magnetic forces.

2. METHODOLOGY

Just as the ancient Greek philosophers laid down their principles to create their theory, Balmer's empirical formula is taken as a principle. Balmer found the empirical formula by which he explains the spectrum of the hydrogen atom. Here, too, in order to build atomic theory, we start from the acceptance of the empirical formula by which we are led and we posit from the finding of this formula, as the fundamental level of the hydrogen atom, the wave $\lambda_0 = 91.1$ nm. In radius $R_0 = \lambda_0/2\pi$, it makes its fundamental orbit, the atom or grain of hydrogen and from there it is excited.

Because this work is an extension of the worldview[1] TO IDION, here too the principles set out there are accepted, namely that there is zero which is nothing and something at the same time (energy-force) and matter. Something analogous to the new and the complete set by Democritus as principles (the vacuum and the fulled).

The equality of masses and charges of the hydrogen atom was also considered as a principle.

Throughout the work, the method of induction is applied consistently, especially in finding mathematical formulas.

But abduction is also used as a method.

REPLACING THE ELECTRICAL CHARGE WITH MAGNETIC

If you approach the positive battery pole to a south pole of a magnetic needle, it attracts it, while the negative pole repels it. The battery has an electric potential difference, electrical voltage and is like a magnetic dipole, i.e. the positive pole acts like a north pole of a magnet, or magnetic dipole. Note that the same pole of the magnetic needle, if you approach it to the center of the battery trunk, the pull is less, because it is metallic. Therefore, the electrical voltage of the electric element is a magnetic dipole. The attraction and repulsion from the electric battery poles is most noticeable in the battery that has its poles side by side (9 Volt).

THE EBONITE, GLASS, RUBBER ROD etc.

All rods that are electrically "charged" are bad conductors of electricity. Therefore, a charged rod, when resting on an electroscope at the peak protrusion of the electroscope, does not transmit as an electric current, the "electric charge" to the projection and then to the pin of the electroscope that is now diverging, This deviation does not come from an electric current that deposited charge on the pin and axis of the electroscope. The charge of the rod is prevented from being transferred because the rod is a dielectric. It is due to magnetic change.

Besides, there is a very weak repulsion of an ebonite rod from an ebonite rod, without first rubbing the ebonite. If there was an electrical charge on the rod, it would be removed by contact with another body and there would be no weak repulsion, but this is not the case now because there is weak repulsion, without friction.

The ebonite rod is attracted to the north pole magnet slightly, and especially when it is grated with woolen cloth. We conclude that the rods are poor conductors of electricity, but have local magnetic fields, which cause the attraction.

ELECTRICAL POTENTIAL AND ELECTROSCOPE

As we know from Bohr's atomic theory, in the hydrogen atom, the proton has an electric potential, $V=ke/r$, where $e=q=$electric charge. From such relationships, we formed the impression that a potential difference is due to electric charges and that in a capacitor, if we apply an electric potential difference, positive and negative charges will form!

Be careful now! We have an electrical source creating an electric potential difference. With conductors we connect it to conductors with metal balls, so the difference in electrical potential is transferred to the spheres. Is it transferred "with electrical charges"?

We take one pole of the electric source and connect it to the top-protrusion of the electroscope. THE PIN OF THE ELECTROSCOPE DOES NOT DIVERGE! And of course, because the electroscope has a metal spike and shaft, the electrical potential difference is transmitted, shaft and pin of the electroscope come to the same electric potential, as the pole and the difference of the poles of the source. BUT NO CARGO (CHARGE) IS TRANSFERRED.

So, depending as here with the electric source and the electroscope and the grated ebonite rod, it has no electric charge.

THE "ELECTRIC CHARGE" IS DUE TO MAGNETIC

We know that a circular conductor of electric current creates a magnetic field as in shape and magnetic moment and forms a magnetic dipole.

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[1] THE TOTAL THEORY, international journal of Mathematics and Physical Sciences Research volume 8 issue 2 April 2020-September 2020
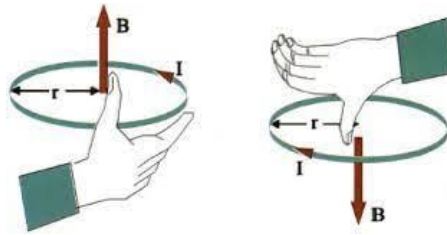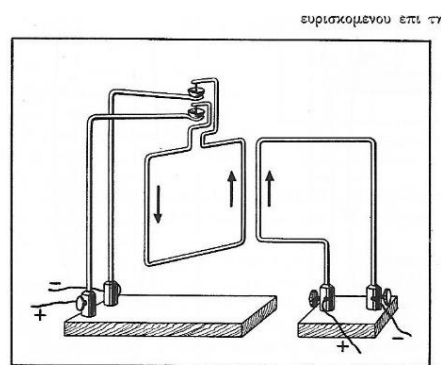
When an "electric ion" moves in a straight line, or an "electric current" crosses a straight conductor, a circular magnetic field forms around the conductor, as in the figure,
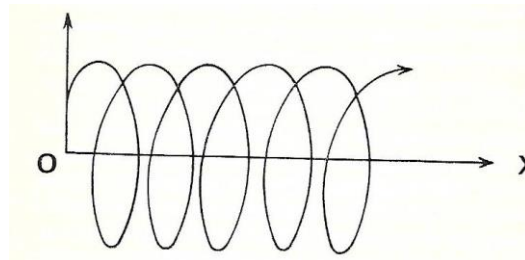
When two parallel electrical conductors are leaked by contiguous currents, they are attracted, as in the figure,
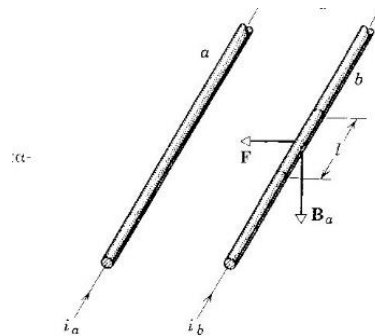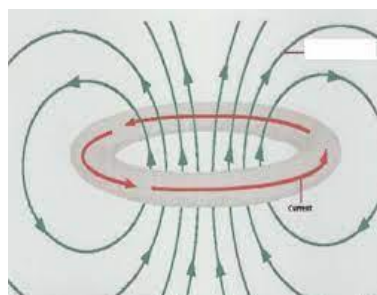

 This was demonstrated with the bank of Ampere as in the figure,

Σχ. 232. Ἕλξις καὶ ἄπωσις παραλλήλων ρευμάτων.
Τράπεζα τοῦ Ampère.

Note the figure below. Circular current conductor, creates a circular magnetic field around the conductor.

In the figure above, the two parallel conductors tangent to the circular red conductor, located at 180^0 angles and parallel at 180^0 degrees to the circular conductor, are attracted. It is also as if two heterologous "electric charges" circularly circulate and the circular magnetic field of one falls perpendicular to the path of the other and attracts it in this case, like the conductors of a parallel contiguous pair of electrical conductors.

In other words, they are at 180^0 angles of the circular conductor, as if two parallel straight conductors are parallel in shape, although they are two opposite conductors parallel, because the "charges" are heterosyndical. Heterologous charges are due to the fact that they are opposite each other and move opposite in the same reference system. And these electrical charges are due to ether flux achieved by self-rotation of the bubbles. Self-rotating bubbles around their axis that is parallel to the velocity vector, in the hydrogen atom. And it drags the neighboring ether into magnetic rotation (like the magnetic field), because the ether has a low viscosity.

QUANTITIES OF MAGNETISM

The physicists took two identical bar magnets and the rods ended in spherical poles of the magnets and created a magnetic balance, as in the figure.
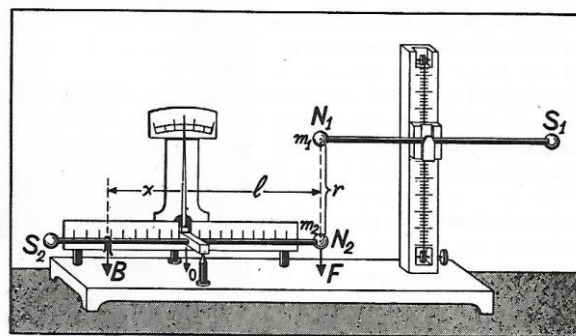
Σχ. 16. Μαγνητικὸς ζυγός. Διάταξις διὰ τὴν πειραματικὴν ἀπόδειξιν τοῦ νόμου τοῦ Coulomb.

The moments Fl=Bx and B were the weight they put on the balance to balance the magnetic force. The experimental result was that the force F was inversely proportional to the square of radius r. They assumed that the magnetic pole has one magnetic quantity q_m and the other opposite and $F=-q_m^2/r2$. In the electroscope, or Coulomb "electric balance", the same thing happens, these are quantities of magnetism and were considered electric charges. Here is the magnetic balance Coulomb.

Apparently, at the spherical poles of the magnets, there were current rings perpendicular to the radius of the sphere. The rings were clockwise at one pole, where at the corresponding point of the other pole they were counterclockwise. The current rings, due to the rotation of the bubbles of dilute ether of atoms, form a magnetic field.

ETHER FLOW THE MAGNETIC FIELD

In a circular current loop, a magnetic dipole is formed. The ether, which has the property of a fluid, passes through the circular loop, moving from the south pole to the north, just like the dynamic lines, the magnetic field, the circular electric loop.

In one hydrogen atom, two equally massive bubbles of dilute ether orbit circularly at speed c, at baseline. In fact, each bubble rotates on its axis with great frequency (self-rotates) and the axis of rotation is parallel and congruent to the vector of the outer velocity of the bubble.
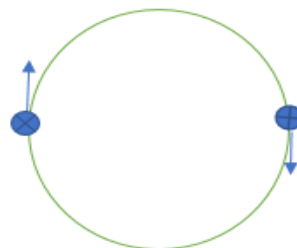
A hydrogen atom with the two bubble-particles rotating around their center of mass at speed c, it is a bound photon. Each bubble itself-rotates around an axis parallel to the velocity vector.

When the bubble rotates around its axis, it carries away the surrounding ether that has low viscosity and also rotates, such as the magnetic field of a direct conductor of current or "electric charge". This field was proved by Oersted by declining a magnetic needle perpendicular to a flowing current conductor.

 The magnetic field of one bubble to the right and around it, and to the rotating other, is about that,
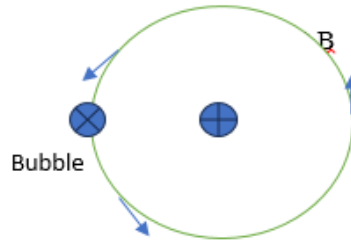
Bubble

Two rotating bubbles around center of mass in radius r., one directed towards the page and the other exiting the page. The rotation of the magnetic field of one bubble around its axis is created by the flow of ether that drifts and intersects vertically the velocity vector of the other. Here you see the system of the atom, where one bubble is a privileged reference frame and the other orbits within radius R=2r

As you can see here, the magnetic field of a bubble-particle is created by its rotation around its axis, and is not like the circular conductors of the spherical poles of the magnet, which proved to be the law of inverse square of the radius of distance of the spheres. Here the two bubbles orbit in radius r around their center of mass circularly and each bubble orbits in radius R=2r around the other circularly, if we mean stationary the other bubble, i.e. if this is the privileged frame of reference.

So, it is true[2],
$$F = m\frac{0.4v^2}{R} = \frac{0.4(mvR)^2}{mR^3} = \frac{k}{R^3}$$

That is, in rotating bodies, the interaction force is inverse to the cube of their radius. So since we talked about quantities of magnetism as in Coulomb's magnetic balance, now, the magnetic amount of the bubble will be e_m and will be equivalent to the electric charge, and the current from the rotation of the bubbles with frequency f, will be, I=emf, and $I_1=I_2$ in the hydrogen atom. It will be the force of attraction of the charges of the hydrogen atom, inverse of the cube of their radius.

THE HYDROGEN ATOM AT LOW PRESSURE

We took the spectra of the elements, as well as hydrogen, and the gaseous elements were at a pressure of less than 0.008 bar. The spectrum of hydrogen was described by Balmer with his empirical formula, $\lambda=\lambda_0\{(1/n_i^2)-(1/n_f^2)\}$, where λ is the wavelength of radiation with initial λ_0 wave and n_f = final level of the electron and n_i = initial level. Balmer gave his formula for the electrons of established physics. We use it for the ether bubbles-particles of the atom.

The existence of electrons was "proved" by Edison when he built an incandescent lamp and between the filament and another pole, he put a capacitor, created an electrical voltage and observed a small current flow.
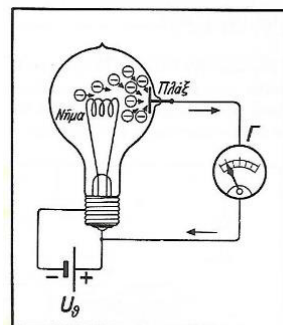
Σχ. 438. Ὅταν ἡ πλὰξ συνδέεται, μέσῳ τοῦ εὐαισθήτου γαλβανομέτρου, πρὸς τὸν θετικὸν πόλον πηγῆς συνεχοῦς τάσεως, τὰ ἠλεκτρόνια κινοῦνται ἐκ τοῦ διαπύρου νήματος πρὸς τὴν πλάκα.

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He considered that the incandescent filament emits electrons, which make up the observed current. But only photons are emitted in the lamp, bound photons of ionized hydrogen atoms, which become carriers of the small current. There are no electrons and protons, photons are perturbations electrical of the ether and low electric current flow!

Hydrogen is the simplest element, consisting of two smaller "particles"-bubbles, which ought to be equal and identical and opposite in magnetic amount of their flow. And the magnetic amount exists due to the rotation of the bubble around its axis. The magnetic amount is e_m and the two bubbles have an equal mass, to harmoniously perform movements in the hydrogen atom particle and its center of mass. This is a prerequisite for this to happen and it was set as a principle.

These two particles are bubbles of dilute ether in the surrounding denser. They move circularly about their center of mass, create a magnetic field B, each and an electric current $I=e_m f$, f=frequency of rotation and the interaction of their electric charges with the magnetic field, create the mass of the bubble $mb= kBe_m{}^2$, k= partial but constant. The hydrogen atom is a bound photon, with a rotational velocity of the c-particles, in the elementary shell-position.

FIND SPEEDS AND SPEEDS IN SMOOTH CIRCULAR MOTION

We consider mobile with constant velocity on the circumference $v_p = 2\pi r / T$, to bring circles with center O and radius, r=OB=CD=OC=BD
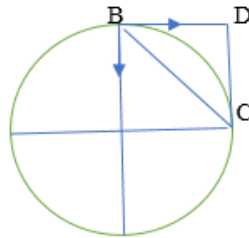
It shall have permissible velocity v_o and centripetal velocity v_v. In the quadrant as in the figure, the mobile will travel a distance in time $\Delta t=T/4$. If the mobile had a BD orbit, it would be valid, $BD=r=v_o\Delta t=v_{oT}/4$. Also, if it traveled the radius, it would hold, $OB=CD=r=v_v\Delta t=v_{vT}/4$ again.

$$So,\ v_o=v_v=4r/T=0.636(2\pi r/T).$$

Again, the phone would have a centripetal acceleration and a permissible. The radius r would be travelled, $BO=r=a_v\Delta t^2=a_v T^2/16$. And $DC=r=a_o\Delta t^2=a_o T^2/16$. Valid,

$$BC^2 =2r^2 =BO^2+DC^2=(a_v T^2/16)^{2}+(a_o T^2/16)^2\ \kappa\alpha\iota,\ a_o{}^2+a_v{}^2=512r^2/T^4.$$

$$a_c=a_v= 16\ r\ /T^2\ =0.4\ \omega^2 r$$

and, $a_c=a_v$=centripetal acceleration.

The centripetal acceleration that gives the force $F=ma_c$ that the body that rotates and on the circular trajectory has, is equalized by the friction force of the ether which is $F=-bv_v$ and the body then falls towards the center of the circle, with velocity v_v. The permissible acceleration gives a force $F=0.4ecB=ma_o$ to the body and this is equal to the friction force of the ether it crosses, $F=-bv_o$ and $v_o=ma_o/b$.

There is also the force $F=ecB$ exerted on the bubble and this is equated to the force of friction, only now the coefficient b is greater. The height of the coefficient depends on the propulsion force and the actual force is $F=ecB$ and $F=e0.4cB$ is a calculated force that occurs permissively of the bubble velocity. When the force exerted is greater, then at the same time the bubble penetrates more into the ether space at the same time and has a greater b.

THE HYDROGEN ATOM

The above equation of centripetal force for the hydrogen atom is,

$$F = \frac{\mu_0 I_1 I_2 (2\pi R)}{2\pi R} = \mu_0(e_m f)^2 = \frac{ke_m^2}{R^3} = kBe_m^2\frac{0.4c^2}{R} = m\frac{0.4c^2}{R} = \frac{0.4(mcR)^2}{mR^3}$$

$I_1=I_2=e_m f$.

We know that $B=\mu_0 I/2\pi R$ and, $\mu_0=2\pi RB/I$. But we know from Balmer, $2\pi R=\lambda_0=91.1$ nm, and $R=1.45 \times 10$-8 m (according to Balmer's formula). And,

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$$\mu_0=9.11\chi10^{-8}\,B/I$$

But $\mu_0=0.4mc^2/R$ and,

$$m=3.3x10^{-15}B/Ic^2=3.67x10^{-32}\,N/I.$$

And because, $e_m^2/R^3=\mu_0 I^2=\mu_0(emf)^2$

$$\mu_0=3.03x10^{-8},$$

since $f=c/\lambda_0=3.29x10^{15}$ Hz. and, $B/I=1$

$$m=3.67x10^{-32}\,kgr$$

and

$$e_m=1/f=3.03x10^{-16}\,Cb_m$$

and Cb_m = unit of quantity of magnetism.

Valid, $\frac{ke_m^2}{R^3} = m\frac{0.4c^2}{R}$ and,

$$m=3.67x10^{-32}\,kgr.$$

$$k=3$$

True, $ke_m^2/R^3=\mu_0 I^2$ and,

I=1 Amp, B=1 T.

The "electric" potential of one bubble is,

$V=ke_m/R^2=5.32$ Volts.

But in the hydrogen atom between the bubbles that roam,

$$F=e_mV/\pi R= ma=mR/(\Delta T/4)^2 \text{, because in } \Delta T/4 \text{ the force is exerted and}$$

$V=(m/e_m)16R^2/T^2)(\pi/4)=(m/e_m)c^2(4/\pi)=13.6$ Volt

This is the ionization tendency of the hydrogen atom in the Frank-Hertz experiment and is experimental proof of our theory.

THE MILLIKAN EXPERIMENT

Millikan, taking as in shape, a capacitor with distance hole, d, blew with bellows drops of oil, some of which fell into the hole.
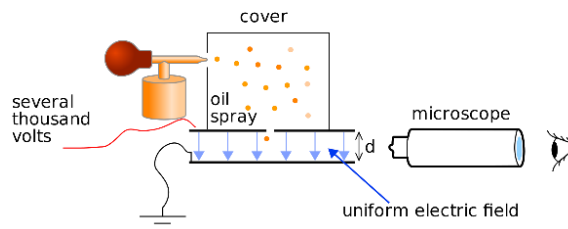
He applied to the capacitor an "electric potential" of a few thousand volts and by one procedure, found as elementary "electric charge", $e=1.6x10^{-19}$ Cb. But we proved that the electric potential is a magnetic dipole, so it magnetically affected the "charged" oil drop. The oil drop had a magnetic charge (electric) negative, with a magnetic amount of $e<<e_m$, as calculated. The charge was obtained by rubbing the drops, as they came out of the bellows.

THE e/m REASON THOMPSON FOUND

Thompson took a glass vacuum tube, as in the figure.
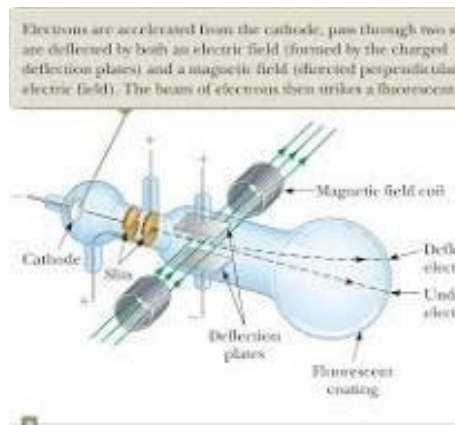
It had a thermionic cathode (cathode heated by the high current that passed). The cathode consisted of tungsten filament. As in sublimation here, a grain of ionized hydrogen atom consisting of the element Tungsten (all elements consist of hydrogen atoms and tungsten), was accelerated and deflected by the electric capacitor and magnets. He measured, as he said, the e/m ratio of the "electron", because he believed that the tungsten filament emitted electrons. He found $e/m=1.7588 \times 10^{11}$.

If we consider that the hydrogen grain had a mass $m_p=1.672 \times 10^{-27}$ kgr, as accepted by physics for the proton, and "charge" the magnetic quantity $e_m=3.03 \times 10^{-16}$ Cb$_m$ that we found for the hydrogen atom, then the ratio is $e_m/m_p= 1.81 \times 10^{11}$, i.e. very close to Thompson's e/m.
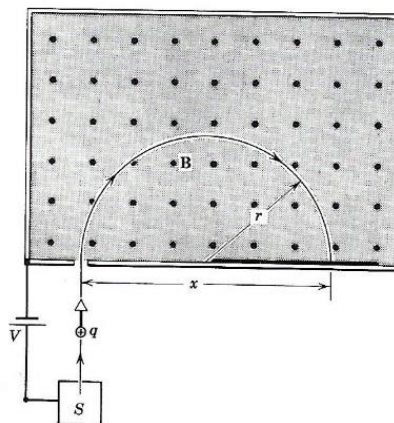
So, the ionized grain of hydrogen atom measured in the Thompson experiment had the mass of the proton that standard physics accepts, but it has the charge that we found, and their ratio is what Thompson found experimentally.

THE DETERMINATION OF THE MASS OF PARTICLES

In the Millikan experiment, the drop of oil had billions of molecules. We consider the same for water vapor, that it has thousands of water molecules. And water vapor is subject to the Avogadro number, that is, to one lit of steam, $6,023 \times 10^{23}$ grains of water vapor are contained.

When we heat an element, it will become liquid and then vapor. The vapor consists of grain of thousands of molecules, or atoms of the element. The element can be gassed directly, by heating and the phenomenon is called sublimation.

They create gas granules of the element by sublimation, if it is not already gas, in which case it has the grains of gas. And if the element is liquid, they evaporate it on vapour granules as and from sublimation, enter a chamber, where ultraviolet radiation (X-rays) falls and is ionized. This happens in mass spectrographs. The amount of "charge" of the ion is actually a magnetic quantity much smaller than a bubble of the hydrogen atom we found and the ion is accelerated in a mass spectrometer, as follows,

The accelerated ion is deflected into a magnetic field and the mass of the ion grain is measured. For the "proton" which is actually a grain of hydrogen atoms, they found that it has a mass $m_p = 1.672 \times 10^{-27}$ kgr. They found this mass by applying the formula,

$$m/e=B^2x^2/8V=1.04 \times 10^{-8} .$$

But the ratio of the magnetic charge we found, to the elementary charge e of established physics, is, $e_m/e=3.03 \times 10^{-16}/1.602 \times 10^{-19}=1891.$ That is, close to the ratio of the mass of the proton to the mass of the electron accepted by physics, $m_p/m_e = 1839$!

And the mass of the electron was calculated by Thompson's calculations of the e/m ratio and charge e that Millikan found. So, Millikan's charge was for the drop of oil that was rubbed into the bellows and obtained an electric charge $e<e_m$, 1891 times less than the charge of the hydrogen atom.

But the charge of ions in mass spectrographs is what Millikan found for the drops of oil emitted by the bellows. The charge of atoms in a gaseous state comes from ultraviolet X-raying. So, for standard physics it was found for the mass of the proton, that is $m_p = 1.672 \times 10^{-27}$ kgr and this mass for our theory, is the mass of one grain of hydrogen atoms.

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But the bubble we found, doubled, gives us the mass of the hydrogen atom, i.e. ma=2x3.67x10^{-32}=7.3x10^{-32} kgr. Then the hydrogen grain has 22,779 atoms and half the hydrogen molecules.

In particle accelerators such as CERN, they accelerate ions of grain elements and collide and decay into atoms.

WHY WE TAKE SPECTRA OF ATOMS

In vacuum tubes less than 0.008 Bar, we create an electric discharge- current of the element. The electrical voltage is large, the pressure is small, and the granules of the element loosen the cohesion of their atoms. Dipoles magnetically the atoms of the hydrogen atom that make up the hydrogen grain and dipole magnetic and electrical voltage and excitation of the atoms of the gas granules located within the experimental tube is created at high voltage and the emission of the spectrum of hydrogen atoms occurs. As is the case with the other more complex atoms of the elements.

Thompson's thermionic cathode emitted 22,779 hydrogen atoms in each hydrogen grain, from each of the 184 grains that make up tungsten. The granules of hydrogen atoms were ionized, one atom of them was ionized. And as we found in the hydrogen atom e$_m$=I/f, this same frequency has the ionized hydrogen atom. Only now this frequency, is a frequency of fluctuation of the radius of the hydrogen atom. This is again a magnetic quantity, which makes the atom an ion.

ION CHARGE AND MASS

It was given the shape of the hydrogen atom, where two bubbles circularly roamed. Under suitable conditions, the two bubbles oscillate radially, and this oscillation creates motion of magnetic charge, disturbance of the flow of ether and is the charge of the ion, that is, the atom-ion. When the radial oscillation is small, then the ether perturbation and the magnetic quantity gives the mass of the oscillating bubble. This oscillation is inherent in the person. But under conditions, such as with ultraviolet irradiation, the radial oscillation of the bubbles is stimulated, and then it acquires charge, the magnetic charge of the ion. The excited radial oscillation creates magnetic flux of the ether and magnetic charge (electric) and this is the charge of the ion.

EPILOGUE

With the methodology as we developed it and which is actually a continuation of the ancient Greek philosophers, we set principles and a new atomic physics is being built.

The hydrogen atom consists of two particles of equal mass and charge bubbles of dilute ether, orbiting each other. Electric currents of parallel conductors with opposite charges are created and the wandering particles are attracted. In fact, attraction is magnetic and electric charge is magnetic quantity. The magnetic, electrical and gravitational forces are integrated.

With solid mathematics, it turns out that the rotation of magnetic quantities is inverse to the cube of their radius.

Hydrogen atoms emit their spectrum excitedly and have a small mass and there are thousands of them, forming a grain of hydrogen atoms, whose mass is that determined by physics for the proton it accepts.

The e/m ratio Thompson found experimentally is confirmed by the ratio of charge we found for the hydrogen atom to the mass of a grain of hydrogen. Thompon in his device emitted ionized hydrogen grains with a charge of one hydrogen atom.

The charge of ions in mass spectrometers is what Millikan found in his experiment and is much less than the charge of the hydrogen atom, or ionized grain in the Thompson experiment.

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