THE PERIODIC TABLE WILL BE REWRITTEN

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The ether toroid of the nucleus dictates the mass of the ether toroid of the orbit of a Hydrogen atom and vice versa.

REDEFINING IONISATION ENERGY OF AN H-ATOM – PART 1

Ref. Data:

Mass of an electron $9.1093826 \times 10^{-31}$ Kg

Classical electron radius 2.81794×10^{-15} m

$q^2 = m\ r \times 10^7$

$(1.60217653 \times 10^{-19})^2 = m \times 2.81794 \times 10^{-15} \times 10^7$

Elementary charge associated with a photon $1.60217653 \times 10^{-19}$ C

Electron volt measure of an electron 511 KeV

The Bohr Radius $5.2917721 \times 10^{-11}$ m

The 1st IE for a Hydrogen atom 13.6057 eV

The Bohr velocity, v and Kinetic energy of an emergent electron KE = $\frac{1}{2} mv^2$

The kinetic velocity,v of the electron emerging of an ionized H-atom

$v = c/137.036 = 2.1877 \times 10^6$ m/s

Bohr Radius

Apply the charge squared equation to the Bohr radius,

$q^2 = m\ r \times 10^7$

$(1.60217653 \times 10^{-19})^2 = m \times 5.2917721 \times 10^{-11} \times 10^7$

$m = 2 \times 2.425434789 \times 10^{-35}$ Kg [Two Rydberg photons]

The Error: Bohr thought that the radius of a Hydrogen atom is $5.2917721 \times 10^{-11}$ m

However, the Bohr radius believed to be that of a Hydrogen atom is in fact the radius of two Rydberg photons each of mass $2.425434789 \times 10^{-35}$ Kg

The Source of the Rydberg Constant

Apply the de Broglie Equation m x c x λ = h

$2.425434789 \times 10^{-35} \times 2.99792458 \times 10^{8} \times \lambda = 6.6260693 \times 10^{-34}$

The inverse of λ is the Rydberg constant precisely NIST measured for a H-atom.

Thus the Rydberg photon produces the Rydberg constant

Ionization Energy IE

Here is how ionization energy is the potential energy of a Rydberg photon transferred as kinetic energy of an emergent electron.

The Rydberg photon energy eV x e = $13.6057 \times 1.602175653 \times 10^{-19}$

E = $2.179872077 \times 10^{-18}$ Joules

eVe = mc^2 where m = $2.425434789 \times 10^{-35}$ Kg of a Rydberg photon

The electron KE = ½ mv^2 = ½ x $9.1093826 \times 10^{-31} \times (2.1877 \times 10^{6})^2$

E = $2.179872077 \times 10^{-18}$ Joules

eVe (Rydberg photon)= ½ mv^2 (Electron)

The Gamma Factor

The gamma factor leads to the Bohr radius…..

I have shown how the Bohr radius belongs to two Rydberg photons and not the Hydrogen atom radius.

The next break-through came in the solution of the Gamma factor.

The Gamma factor = $(1 – v^2/c^2)$ = 0.999946748 where v = c/137.036

The change in velocity from light speed c to slowed velocity v due to the radial reduction of length by 137.036.

My thinking centres around a change in measured mass due to change in velocity.

The gamma factor which is basically velocity squared change by speed of light squared can be also depicted as,

$[c^2 – v^2] /c^2$

So what effect has the gamma factor on the electron mass originally at light speed c now reduced to a slowed velocity of v

Electron mass x Gamma factor,

$9.1093826 \times 10^{-31} \times 0.999946748 = 9.108897513 \times 10^{-31}$ Kg Changed electron mass at v

The difference in mass between an electron mass measure at light speed c and the changed reduced electron mass at slowed velocity v equals $4.850869578 \times 10^{-35}$ Kg the mass of two Rydberg photons that which corresponds to the Bohr radius, $5.2917721 \times 10^{-11}$ m

$9.1093826 \times 10^{-31} - 9.108897513 \times 10^{-31} = 4.850869578 \times 10^{-35}$ Kg

2 eVe = mv^2 Two eVe in green represents energy of two Rydberg photons and in blue the energy of an electron at slowed velocity v

eVe = ½ mv^2 One eVe in green represents 13.6057 eV of one Rydberg photon and in blue the kinetic energy of an electron at slowed locomotion velocity v as it emerges from the H-atom

Proposed Mechanism of Ionization

Apply the de Broglie Equation m x c x λ = h

$2 \times 2.425434789 \times 10^{-35} \times 2.99792458 \times 10^{8} \times \lambda = 6.6260693 \times 10^{-34}$

1. Two Rydberg photons :

$4.850869578 \times 10^{-35} \times 2.99792458 \times 10^{8} \times \lambda = 6.6260693 \times 10^{-34}$

λ = 2 Pi x R x 137.036

R = $5.2917721 \times 10^{-11}$ m

Two Rydberg photons rotate 2Pi about Bohr radius expanded by 137.036

2. An electron at slowed velocity, v

$9.1093826 \times 10^{-31} \times 2.1877 \times 10^{6} \times r = 6.6260693 \times 10^{-34}$

r = $3.324918471 \times 10^{-10}$ m = 2 Pi x $5.2917721 \times 10^{-11}$ m or 2 Pi x R

An electron mass emerges when the expanded Bohr radius R x 137.036 drops down in length by 137.036 to the Bohr radius R.

2 eVe (Rydberg photon)= mv^2 (Electron)

eVe (Rydberg photon)= ½ mv^2 (Electron)

Conclusion

1. When 13.6057 eV ionizing electron volts are applied on Hydrogen gas an electron is emitted.

   Correction: When 13.6057 **pV *ionizing photon volts*** are applied on Rydberg photons in Hydrogen gas an electron is emitted.

2. The experimental 13.6057 eV ionizing electron volts at ***velocity v*** are in fact 13.6057 **pV *ionizing photon volts* of one Rydberg photon.** The 511 KeV associated with an electron is at ***light speed c***.

   The Error: The velocity variable has been missed.

3. The potential energy of the Rydberg photon measured as the kinetic energy of an emergent electron.

4. eVe = ½ mv^2 One eVe in green represents 13.6057 eV of one Rydberg photon and in blue the kinetic energy of an electron at slowed locomotion velocity v as it emerges from the H-atom.

5. The Bohr radius belongs to two Rydberg photons and not the Hydrogen atom radius.

6. The Gamma Factor: $9.1093826 \times 10^{-31} - 9.108897513 \times 10^{-31} = 4.850869578 \times 10^{-35}$ Kg
   The difference in mass between an electron mass measure at light speed c and the changed reduced electron mass due to slowed velocity v equals $4.850869578 \times 10^{-35}$ Kg the mass of two Rydberg photons that which corresponds to the Bohr radius, $5.2917721 \times 10^{-11}$ m

7. An electron mass emerges when the expanded Bohr radius R x 137.036 drops down in length by 137.036 to the Bohr radius R.

A Proposed Model of the Hydrogen Atom – PART 2

Ether occupies $1.346611109 \times 10^{27}$ Kg per radial meter

Or $1.859222909 \times 10^{-9}$ Kg per $1.380668031 \times 10^{-36}$ radial meters {Ether Torus}

Elementary charge: One electron oscillates in a $1.859222909 \times 10^{-9}$ Kg ether torus

The Bohr Radius $5.2917721 \times 10^{-11}$ m contains,

$5.2917721 \times 10^{-11}$m x $1.346611109 \times 10^{27}$ Kg/m = $7.125959096 \times 10^{16}$ Kg Ether

Or $3.832762097 \times 10^{25}$ ether tori [Toroid]

Or $3.832762097 \times 10^{25}$ electrons present in one hydrogen atom

Or 3.832762097 x 10^{25} x 9.1093826 x 10^{-31} Kg = 3.491409636 x 10^{-5} Kg electron mass

Or 3.832762097 x 10^{25} x 2 x 2.425434789 x 10^{-35} Kg = 1.859222909 x 10^{-9} Kg Ether mass which represents the negatively charged ether orbit of a hydrogen atom or oxidation state

The proton radius,

$q^2 = m\ r \times 10^7$

$(1.60217653 \times 10^{-19})^2 = 1.672622216 \times 10^{-27} \times r \times 10^7$

r = 1.5347 x 10^{-18} m

The proton radius contains,

1.5347 x 10^{-18} m x 1.346611109 x 10^{27} Kg/m = 2.066641105 x 10^{9} Kg Ether

1.111561769 x 10^{18} ether tori [Toroid] occupy 1.5347 x 10^{-18} radial meters

Or 1.111561769 x 10^{18} protons occupy 1.5347 x 10^{-18} radial meters [one proton oscillates in one ether torus]

Or 1.111561769 x 10^{18} protons x 1.672622216 x 10^{-27} Kg = 1.859222909 x 10^{-9} Kg occupies the region described as the nucleus of an atom.

Let us measure the energy of the atom:

$$E = G\frac{Mm}{R} \qquad G = 6.6742 \times 10^{-11}\ \mathrm{m\ kg^{-1}\ m^2 s^{-2}}$$

M = mass of 1.111561769 x 10^{18} protons = 1.859222909 x 10^{-9} Kg

m = mass of 3.832762097 x 10^{25} electrons= 3.491409636 x 10^{-5} Kg

Energy of the Hydrogen nucleus, R = 1.5347 x 10^{-18} m is 2.822981238 x 10^{-6} J

Surprisingly, the energy experience at the Hydrogen nucleus is equal to that of one proton mass at the speed of light squared times 137.036 squared.

$$m\ v\ r = h$$

$$1.672622216 \times 10^{-27} \times [c \times 137.036] \times [2\ \mathrm{Pi} \times 1.5347 \times 10^{-18}] = h$$

Energy of the 1st Ether energy level, R = 5.2917721 x 10^{-11} m is 8.187104856 x 10^{-14} J

Surprisingly, the energy experienced at the 1st ether energy level is equal to that of one electron mass at the speed of light squared.

The 1st ether energy level equal to that of one electron mass at light speed squared changes by the gamma factor due to 137.036 yielding two Rydberg photons corresponding to the expanded Bohr radius described in Part 1.

$$4.850869578 \times 10^{-35} \times 2.99792458 \times 10^{8} \times \lambda = 6.6260693 \times 10^{-34}$$

$\lambda = 2$ Pi x { R x 137.036 } The bracket is an expanded Bohr radius

$$R = 5.2917721 \times 10^{-11} \text{ m}$$

Two Rydberg photons rotate 2Pi about Bohr radius, R expanded by 137.036

3. An electron at slowed velocity, v

$$9.1093826 \times 10^{-31} \times 2.1877 \times 10^{6} \times r = 6.6260693 \times 10^{-34}$$

$$r = 3.324918471 \times 10^{-10} \text{ m} = 2 \text{ Pi} \times 5.2917721 \times 10^{-11} \text{ m} \text{ or } 2 \text{ Pi} \times R$$

An electron mass emerges when the expanded Bohr radius R x 137.036 drops down in length by 137.036 to the Bohr radius R.

$$m\, v\, r = h$$

$$9.1093826 \times 10^{-31} \times [c / 137.036] \times [2 \text{ Pi} \times 5.2917721 \times 10^{-11}] = h$$

Remarks

The physical quantities that are found in NIST data are part of this paper. However, the description surrounding some quantities has changed in meaning as follows.

1. The Rydberg constant inverse is now shown to be the wavelength of one Rydberg photon.
2. The ionisation energy for the H-atom corresponds to one Rydberg photon, which slows down the velocity from light speed to the Bohr velocity yielding an electron kinetic energy equal to the Rydberg photon potential energy.
3. The Hydrogen atom is comprised of $1.111561769 \times 10^{18}$ protons and $3.832762097 \times 10^{25}$ electrons.
4. The energy of the Hydrogen nucleus corresponds to one proton at faster than light speed of c x 137.036 when surrounded by one Ether toroid of $3.832762097 \times 10^{25}$ ether tori each with one electron oscillator.
5. The energy of the first ether shell of the Hydrogen atom corresponds to that of one electron at speed of light squared when influenced by a nucleus of $1.111561769 \times 10^{18}$ ether tori each with one proton oscillator.

6. At the centre of the Hydrogen atom is a toroid comprised of $1.111561769 \times 10^{18}$ ether tori each with one proton oscillator. The mass of the protons in the toroid equals $1.859222909 \times 10^{-9}$ Kg. This $1.859222909 \times 10^{-9}$ Kg is the reason for the positive charge of the nucleus.
7. Surrounding the nucleus is an ether toroid comprised of $3.832762097 \times 10^{25}$ ether tori each with an oscillator mass of two Rydberg photons $2 \times 2.425434789 \times 10^{-35}$ Kg = $1.859222909 \times 10^{-9}$ Kg Ether mass which represents the negatively charged ether orbit of a hydrogen atom or oxidation state.
8. The Rydberg photons are in step with conservation of energy and momentum as shown in the solution of the gamma factor. A pulsation between two radial limits of an ether shell with energy of an electron by a factor of 137.036 produced two Rydberg photons.

   Similarly, one can now adapt this method for other atoms in the periodic table and hopefully wipe away the anomalies. It is high time for a new form of the periodic table.