Re: Bohr's Atom still number one

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2007−05/msg01165.html

- *From*: bz <bz+spr@xxxxxxxxxxxxxxxxxxx>
- *Date*: Mon, 7 May 2007 20:16:53 +0000 (UTC)

"guskz@xxxxxxxxxxx" <guskz@xxxxxxxxxxx> wrote in
news:1178565027.742367.43960@xxxxxxxxxxxxxxxxxxxxxxxxxxx:

> On May 7, 12:40 pm, bz <bz+...@xxxxxxxxxxxxxxxxxxx> wrote:
>
> > "g...@xxxxxxxxxxx" <g...@xxxxxxxxxxx> wrote
> > innews:1178552820.243315.155320@xxxxxxxxxxxxxxxxxxxxxxxxxxx:
> >
> > > On May 7, 5:58 am, bz <bz+...@xxxxxxxxxxxxxxxxxxx>
> > > wrote:
> > >
> > > > "g...@xxxxxxxxxxx" <g...@xxxxxxxxxxx>
> > > > wrote
> > > > innews:1178526326.486708.25780@xxxxxxxxxxxxxxxxxxxxxxxxxxx:
> > > >
> > > > Under
> > > > Bohr's
> > > > theory, that
> > > > is correct.
> > > > And under
> > > > Bohr's
> > > > theory,
> > > > they fall
> > > > into the
> > > > nucleus
> > > > very
> > > > quickly.
> > > >
> > > > My point was your canon
> > > > ball. The canon ball does
> > > > NOT undergo
> > > > constant acceleration.

> It does. 32 ft/sec^2 acceleration toward the
> center of the earth.
> Absent that acceleration it would travel in a
> straight line.

Bohr's model is wrong.

> #1. Your Franck−Condon says the electrons are almost
> inertia−free (=
> acceleration free (= free of any new motion)

Yep. Bohr's model is wrong.

> http://www.life.uiuc.edu/govindjee/biochem494/Abs.html
> Quote: "According to the so−called Franck−Condon
> principle**, the
> absorption of a photon is a practically instantaneous process,
> since
> it involves only the rearrangement of practically inertia−free
> electrons."

Rearrangement of the molecular orbitals, NOT the atomic orbits of Bohr.

> ––
> ––– ––––––––––––––––––––––––––––––––––
> #2. Perhaps the amount of
> radiation = the photons own pull towards the nucleus (same
> as light
> bends gravity)?

NO. You are mixing raisins and elephants.

> Why? I'm saying is if the electron is emitting radiation (photons)
> then "perhaps" the nucleus is retaining it from actually being emitted
> by the electron ...since photons and radiation bends from gravity then
> perhaps likewise in the nucleus (for small amounts of acceleration
> only).

Study the strong force, the weak force, the electrostatic force, and the

force of gravity.

> Like me tiying you to a rope while your holding a spring(photon) as I spin you around cowboy style *yeehaw) the spring bounces(Radiates) back and forth...but not enough to spring(break) out of your hands. If you change orbitals though then that would be enough to cause emission/ absorption.
>
> > #3. I never said other forms of orbitals are wrong,
> >
> > You implied it very strongly, saying that Bohr was what should be taught, not orbital theory. Do I need to dig back into your previous posts and quote what you said?
>
> Having photons swirl around electrons could negate the capacity to determine certain attributes of the electron (uncertainty principle).

Having electrons associated with the nucleus means we can not determine the exact location of the electrons (uncertainty principle). The most we can know is the probable location of the electron. The uncertainty principle says that even the electron can not know exactly where it is.

In fact the magnitude of the uncertaintly is so large that the electron can NOT 'orbit' the nucleus because to follow an orbit would require that the electron 'know' both its location and its velocity.

> > I said Bohr's is
> > #1 (the founding principle) where the Sun is at the center of a circular orbital....but if the Sun is at a focal point of an elliptical oribtal, the repulsion between electrons can cause symetrie along the orbital..so as one is emiting the other is absorbing (etc...) = radiation preservation.
> >
> > Neither circular orbits nor elliptical ones are a good model for the atom. Why teach something that is wrong and ignore what is right?
>
> Cause it's the basic principle of all diverging/converging fields acting on external particles and substantiating(quantum = substance) that only these effects can occurs in integer quantum units of energy(of force) and nothing less.

> (Force weakens with 1/r^2 or 1/r^3 or etc.... from the center of the force field and due to quantum mechanics (quantum principles cannot be **disobeyed**) only "x" number of particles(or waves) are **permitted** at specific interval distances from the center of the same force field...thus other particles must move away).

Psi represents a probability, NOT a 'wave'. The plots of the probability show that the electron can be (for the s orbital) ANYWHERE, including in the nucleus). The p orbitals, on the other hand, have a node (a plane with zero probability) passing through the nucleus. The electron 'travels' from one lobe of the p orbital to the other lobe of the p orbital without ever going 'through' that nodal plane.

> Doesn't Bohr's equation form the "Table of Elements" using a concise quantumized integer number of electrons per element? Are they now using an other equation?

The Quantum equations have an parameter that corresponds to Bohr's 'atomic number'.

Your questions show that you have not been doing your homework.
Assignment: WHICH Quantum parameter corresponds to Bohr's atomic number?

> > #4. I believe Bohr's is #1 because I believe all forces (skiping curled fields) in fields (nucleus, magnetic, electric, etc..) should
> > behave the same way and that is PROPORTIONALLY WEAKEN with distance
> > from the center of the location excerting this force. Any complex
> > schema swaying from this pattern is due to multitudes of other forces
> > (particles or planets or moons) combined together.
>
> Unfortunately your belief system is based on ignorance.

> The quantum "limits" the amount of available force(energy) that is dispersed in a field(force field). Particles must obey this quantum principle and thus limit the *****number***** permitted to approach the center of a force field. Otherwise there would be no such thing as a neutral charge.

You are putting together words without understanding what they mean.

Are you trying to learn something about physics or show the world your beliefs? Hint: the world doesn't care what you (or I) believe. It only cares about what works.

....

IF THEY WERE TO FEEL
ANYTHING AT ALL
THEN THEY WOULD BE
**********SLOWING
DOWN**********

The electrons in a cyclotron and in a
magnetron are not slowing
down.

Cause the cyclotron/magnetron is an "accelerator".....faster
and
faster = acceleration (not at all like nucleus) and acceleration
=
photon emission.

You finally are close to a correct answer.

The point being you gave an incorrect comparison....the cyclotron accelerates the electron(= electron has higher and higher velocity as it travels in the cyclotron/magnetron) but the electron does not accelerate(= constant velocity) around a nucleus if it is traveling in a perfect circle.

WRONG. If you stand on a merry−go−round, you will feel a 'centrifugal force' (does not really exist, it is really inertia) trying to throw you away from the center of the merry−go−round.

In the mean time, your feet and the platform provide a real 'centripedal force', a force accelerating you toward the center of the merry−go−round.

Gravity and electrostatic forces provide similar 'centripedal force' on the

earth and on the electron. Both are (under newtonian physics) undergoing constant acceleration toward the center, just as you are while you stand on the merry−go−round.

You do really need to study basic physics before you can discuss this stuff with any intelegence.

> ahhhh...so does their intensity become zero with time in the cyclotron since they keep radiating energy (or does the electron
> decay into other particles)?

> Neither. Energy is added by the external electronic circuitry. As long as the circuits are pumping in energy, the devices will be emitting radiation.

> So your saying in Bohr's atom, the electron would constantly be needing to absorb radiation so as not to plunge into the nucleus.

Almost, I am saying that in the Bohr model, the electron would be constantly radiating energy and WOULD plunge into the nucleus.

> When
> the electron decelerates for a quick instant due to acceleration
> towards the nucleus, it quickly emits photon....***BUT*** it must just
> as quickly (similar to your Franck−Coldron principle) RE−ACCELERATE in
> order to maintain a constant velocity around the nucleus, therefore it
> would re−absorb very quickly the photon it just shed away = wave and
> spring like pattern of the photon.

There is no mechanism to capture and re−emit such photons.

> In a frictionless world Newton's law is dominant:

yep

> Exagerated version of your constant acceleration below here:
>
> ....meaning if a planet is moving away from the sun(= eccentric elliptical instead of perfect circular orbit): IT DOES NOT SLOW DOWN TO A STOP and quickly regains the velocity it lost. Likewise for the electron: the photons it sheds whether instantaneous during a circular orbit or after prolong deceleration during an elliptical orbit, it RE−ABSORBS what it once shed away.

KE+PE = constant (planets)

No such formula for the electrons as there is no measurable 'motion'.

> Come on throw me a bone....wether it is an instantaneous cirlcular orbit or a prolonged elliptical orbit, the electron will re−absorb what it once emitted(instataneous versus long term)...the same way a planet in an eccentric elliptical orbit regains the velocity it once lost.

Sorry, no banana. Bohr's theory is dead.

−−
bz

please pardon my infinite ignorance, the set−of−things−I−do−not−know is an infinite set.

bz+spr@xxxxxxxxxxxxxxxxxxxx remove ch100−5 to avoid spam trap
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