VPPF Physicists-following the signs for LENR

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12:39 AM

The Nobel Prize in Physics 1918
Max Planck
About Max Planck

Max Planck Formulates Quantum Theory (1900): For several decades, physicists had been trying to understand the surprising results they continued to get from heating black bodies (a surface that absorbs all frequencies of light that hits it). Try as they might, scientists could not explain the results using classical physics.

In 1900, German theoretical physicist Max Planck (1858-1947) discovered an equation that explained the results of these tests. The equation is E=Nhf, with E=energy, N=integer, h=constant, f=frequency. In determining this equation, Planck came up with the constant (h), which is now known as "Planck's constant."

The really amazing part of Planck's discovery was that energy, which appears to be emitted in wavelengths, is actually discharged in small packets (quanta). This new theory of energy revolutionized physics and opened the way for Albert Einstein's theory of relativity.

Here are some additional comments that seemed important to me about Max Planck, problems of radiation processes engaged his attention and he showed that these were to be considered as electromagnetic in nature. From these studies he was led to the problem of the distribution of energy in the spectrum of full radiation.

Planck was able to deduce the relationship between the energy and the frequency of radiation. In a paper published in 1900, he announced his derivation of the relationship: this was based on the revolutionary idea that the energy emitted by a resonator could only take on discrete values or quanta. The energy for a resonator of frequency v is hv where h is a universal constant, now called Planck's constant.

Here is an article on quantum energy explaining the Planck constant.

This definition of Radiation is from Wikipedia.

Important from that article and how it stands out is that it explains radiation as a wave, the scientists all mention waves, frequencies and other in their work. What has been out of the text is exactly how and what forms that wave they are all dissecting to result their formulas on what they have deduced mathematically as fact or high probability in their work as the correct assumption. They simply went from what was observed and reduced it into a very small particle that was termed quanta.

For any type of wave to become observable first there must be an oscillation of some type that starts or creates the "wave" as it has been termed for the lack of a better word to reference that others can grasp some type of visionary object to refer to. This is illusionary at best and has stood in text since early 1900.

The Nobel Prize in Physics 1922
Niels Bohr
About Niels Bohr

When you read about Niels Bohr you see a model of an atom and also pictures, these are built on principles after the observation of electrical energy were taken to a scale others could not see clearly. That scale is interpretation at best and at the time this was published it pushed science into an area that unless you could calculate the math for this atom model the observations of macro objects were less likely to be accepted by other scientists from your viewpoint.

In 1913 one of Rutherford's students, Niels Bohr, proposed a model for the hydrogen atom that was consistent with Rutherford's model and yet also explained the spectrum of the hydrogen atom. The Bohr model was based on the following assumptions.

1. The electron in a hydrogen atom travels around the nucleus in a circular orbit.

2. The energy of the electron in an orbit is proportional to its distance from the nucleus. The further the electron is from the nucleus, the more energy it has.

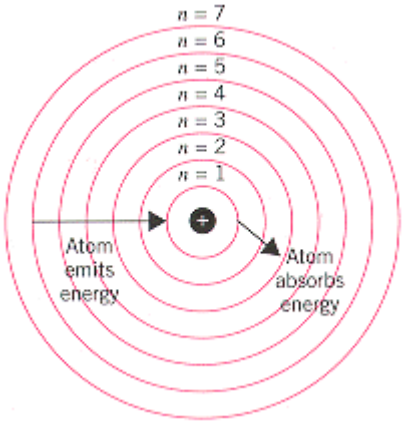
3. Only a limited number of orbits with certain energies are allowed. In other words, the orbits are quantized.

4. The only orbits that are allowed are those for which the angular momentum of the electron is an integral multiple of Planck's constant divided by 2.

5. Light is absorbed when an electron jumps to a higher energy orbit and emitted when an electron falls into a lower energy orbit.

6. The energy of the light emitted or absorbed is exactly equal to the difference between the energies of the orbits.

Some of the key elements of this hypothesis are illustrated in below. Three points deserve particular attention. First, Bohr recognized that his first assumption violates the principles of classical mechanics. But he knew that it was impossible to explain the spectrum of the hydrogen atom within the limits of classical physics. He was therefore willing to assume that one or more of the principles from classical physics might not be valid on the atomic scale.



According to the Bohr model, hydrogen atoms absorb light when an electron is excited from a low-energy orbit (such as n = 1) into a higher energy orbit (n = 3). Atoms that have been excited by an electric discharge can give off light when an electron drops from a high-energy orbit (such as n = 6) into a lower energy orbit (such as n = 1). the energy of the photon absorbed or emitted when the electron moves from one orbit to another is equal to the difference between the energies of the orbits.

Second, he assumed there are only a limited number of orbits in which the electron can reside. He based this assumption on the fact that there are only a limited number of lines in the spectrum of the hydrogen atom and his belief that these lines were the result of light being emitted or absorbed as an electron moved from one orbit to another in the atom.

Finally, Bohr restricted the number of orbits on the hydrogen atom by limiting the allowed values of the angular momentum of the electron. Any object moving along a straight line has a momentum equal to the product of its mass (m) times the velocity (v) with which it moves. An object moving in a circular orbit has an angular momentum equal to its mass (m) times the velocity (v) times the radius of the orbit (r). Bohr assumed that the angular momentum of the electron can take on only certain values, equal to an integer times Planck's constant divided by 2.

mvr = n h (where n = 1, 2, 3, 4, 5, . . .)

2

Bohr then used classical physics to show that the energy of an electron in any one of these orbits is inversely proportional to the square of the integer n. The difference between the energies of any two orbits is therefore given by the following equation.

E = RH 1 - 1

n12 n22

In this equation, n1 and n2 are both integers and RH is the proportionality constant known as the Rydberg constant.

Planck's equation states that the energy of a photon is proportional to its frequency.

E = h

Substituting the relationship between the frequency, wavelength, and the speed of light into this equation suggests that the energy of a photon is inversely proportional to its wavelength. The inverse of the wavelength of electromagnetic radiation is therefore directly proportional to the energy of this radiation. By properly defining the units of the constant, RH, Bohr was able to show that the wavelengths of the light given off or absorbed by a hydrogen atom should be given by the following equation.

1 = RH 1 - 1

n12 n22

Bohr was able to show that the wave-lengths in the UV spectrum of hydrogen discovered by Lyman correspond to transitions from one of the higher energy orbits into the n = 1 orbit. The wavelengths in the visible spectrum of hydrogen analyzed by Balmer are the result of transitions from one of the higher energy orbits into the n = 2 orbit. The Paschen, Brackett, and P fund series of lines in the infrared spectrum of hydrogen result from electrons dropping into the n = 3, n = 4, and n = 5 orbits, respectively.

The Bohr model did an excellent job of explaining the spectrum of a hydrogen atom. By incorporating a Z2 term into the equation, which adjusted for the increase in the attraction between an electron and the nucleus of the atom as the atomic number increased, it could even explain the spectra of ions that contain one electron, such as the He+, Li2+, and Be3+ ions. Nothing could be done, however, to make this model fit the spectra of atoms with more than one electron. The Bohr model left two important questions unanswered. Why are there only a limited number of orbits in which the electron can reside in a hydrogen atom? And, why can't this model be extended to many-electron atoms?

NOTE: By this model and statement it seems logical at this point that to liberate all electrons from the outer electron orbital belts one would simply need to unbalance the nucleus of the atom and the electrons would fly off easily.

For more detailed information of Bohr's proposed sub atomic particles.
Quotes from Bohr

The Nobel Prize in Physics 1932
Werner Heisenberg
About Werner Heisenberg

1. The Heisenberg Uncertainty Principle
Heisenberg's uncertainty principle states that we cannot know both the position and momentum of a particle. If we know the momentum then we do not know the position, and visa versa, if we know the position then we do not know the momentum. This discovery has had profound consequences for the evolution of physics as it supported the emerging postmodern philosophical view that all knowledge was uncertain (which is not correct).
Werner Heisenberg discovered his famous Heisenberg Uncertainty Principle in March 1926, working with his matrix mechanics (1925). This was at the same time that Schrodinger independently discovered his wave equations. In May 1926 Schrodinger showed that his wave mechanics was mathematically equivalent to Heisenberg's matrix mechanics. And as history shows, Schrodinger's wave equations proved to be most useful and now dominate the foundations of quantum physics.

The importance of this is that Schrodinger was convinced the waves were real and detested Born's probability wave interpretation (1928) which also became universally accepted because it is mathematically true. For the deduction of the uncertainty principle from wave foundations please see the Heisenberg Uncertainty Principle page.

The Nobel Prize in Physics 1933
Erwin Schrödinger, Paul A.M. Dirac
About Erwin Schrodinger

We must not wait for things to come, believing that they are decided by irrescindable destiny. If we want it, we must do something about it. (Erwin Schrodinger)

Schrodinger has the cat theory and also his formulas are based on differentials.

NOTE: This question keeps arising and I will need more research on this topic to clearly understand why these small "particles" are so much of a big interest to just a regular person wanting to get by in their life and have a happy productive life when in the end of their life can look back and say I did what I wanted and thought was right, and I am really happy I had this great time on the earth to enjoy.

I don't want to get personal on belief systems but it seems at this point with all the math and particle equations emerging in physics at this time in history (early 1900's) that the goal was most likely driven by trying to understand creation but making mathematical calculations come up as to magically explain how things actually operate in a scale most regular people are asking themselves why are they spending so much time figuring out the momentum of particles so small no one will ever be able to see and much less figure out what they are made up of, simply a guessing game is the reality of it. Makes people that have allot of money happy to pay someone dabbling in the science of creation in the event something new develops from it.

To this day it is still a matter of the wealthy that seek to know the underlying building blocks of creation. If the text on these pages does not relay the fact we were created in origin as a human and natural life form environment working in synchronicity with all other mass in creation, then I can say no more for illustrating the point.

The Nobel Prize in Physics 1954

Max Born, Walther Bothe
About Max Born

Physicist Max Born is best known for his statistical analysis of how subatomic particles behave. His studies of the wave function led to a reassessment of the original quantum theory, replacing the explanation of electrons as particles with a more accurate mathematical and statistical interpretation of the observed behavior of electrons. His work added to the scientific understanding of the inherently probabilistic nature of the basic laws of quantum mechanics, and earned the highest honor in science, the Nobel Prize for Physics, in 1954.

The Bohr Model shows the three basic subatomic particles in a simple manner. Most of an atom's mass is in the nucleus, a small dense area at the center of every atom formed by nucleons. Nucleons are protons and neutrons. All of the positivity of an atom is contained in the nucleus, because the protons have a positive charge. Neutrons are neutral, meaning they have no charge. Electrons, which have a negative charge, are located outside of the nucleus.

The Nobel Prize in Physics 1965
Sin-Itiro Tomonaga, Julian Schwinger, Richard P. Feynman
About Richard Feynman

This short You Tube Video is where your LENR interests should be targeted.

Quotes by Richard Feynman

The Nobel Prize in Physics 1973
Leo Esaki, Ivar Giaever, Brian D. Josephson
About Brian D. Josephson

Macroscopic quantum phenomena.

Robert Clark

Physics Professor at The Citadel

Terahertz radiation researcher

The physicists mentioned above are huge contributors to the information needed to understand prior to the LENR experimenting research with the Universal Reactor LENR. Combined theories have given sufficient information from the past and as well as the Windom Larson theory that NASA is exploring for the LENR based science for space propulsion.

Here is a history of the understanding of matter.

After digesting the past physicists solutions and formulas for the quantum energy world, we know primarily where and how this type of research information has been directed toward and it has most likely done real good for people somewhere but I cannot find those intranet sites. We do know however from researching Feynman where it ended up for usages. The real and exact information these scientists held from their research is held tightly and confined for future advancements of their work in the past. The average person experimenting and trying to figure out LENR should also contemplate information passed to them from funnel groups. These funnel groups are from various scientific and other backgrounds that at all costs and expenses prohibit and restrict factual data and construct red herrings for us "regular folk" to digest and work through.

We are following through in the development of factual understandings and details that will allow the common experimenter or interested person to finally understand what this quantum measurement and it's predictions are all about.