Planck's Constant and the Photon

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The sketch below shows a Hydrogen atom as per the Space Vortex Theory (SVT). Here the shaded core is the assembly of electrons and positrons, thus building a neutron. A space vortex enclosing the neutron, shown by the circular streamlines provides charge and makes it a proton. The adjoining electron vortex is trapped (attracted) by the proton vortex. The electron vortex is responsible for the charge of the electron and the proton vortex creates the charge of the proton. In addition, the electron vortex pressurizes the central interface of the electron with inward gravity field and also inward electric field. Similarly, the neutron core of the proton is pressurized by the proton vortex by an inward gravity and inward electric field. As per SVT all nuclei of atoms are enclosed by their respective space vortices that pressurize them against the splitting force of the protons in the nuclei. The highest velocity field around the hydrogen nucleus is 1/12 of the light velocity (c). With larger atoms it falls inversely as their radii. With high velocity fields in the vortices, the outermost electrons in average atoms rotate at about 1/00 of the speed of light. Due to this, atoms behave as hard particles.

Orbital electrons are carried in the atomic vortices and are not accelerating. They do not lose any of their structural energy or kinetic energy while rotating in their fixed orbits and do not fall on to their nuclei. That electrons during acceleration lose energy is a misconception in current physics.

The Wein and Planck formula for the theoretorical explanation of cavity radiation treats atoms with bare nuclei where the space in which the electros orbit is empty and void. Therefore any external inward force on their surfaces does not retard their vibration. So it is believed that higher oscillations and frequencies can be attained and spectral radiance could be infinite. But the experimental data showed a decline in spectral radiance after the initial rise. Planck concluded that electromagnetic radiation of frequency f is made up of whole numbers of packets of energy , hf, where h is the Planck Constant. Here, the energy of f nos. of light -shells that are produced by an osilating atom at different instants in one second, have been added up as if the atom has a "storing mechanism" and energy of f shells can be accumulated. With the vortex structure of atoms such a mechanism is impossible.

Cavity Radiations

An atomic vortex in oscillations about its center displaces fluid space on all sides. The maximum speed of space flow is limited to the light speed c. An atom with displacement of its center, say equal to its radius r , will displace space by the length r which will take minimum time of r/c. With r = 10^{-8} cm for an average atom; r/c = 3 x 10^{-19} sec. As per SVT, during this interval a shell of light is formed around the oscillating atom due to time-varying potential [gravitational and

electric]; and in one second, the nos. of shells formed and emitted will be about 3 x 10^ 18 shells which is the frquency of the light emitted. Thus, cavity radiations will have a limit to the thermal radiation frequency of about 3 x 10^18 due to the reaction of space on oscillating atoms within the cavity.
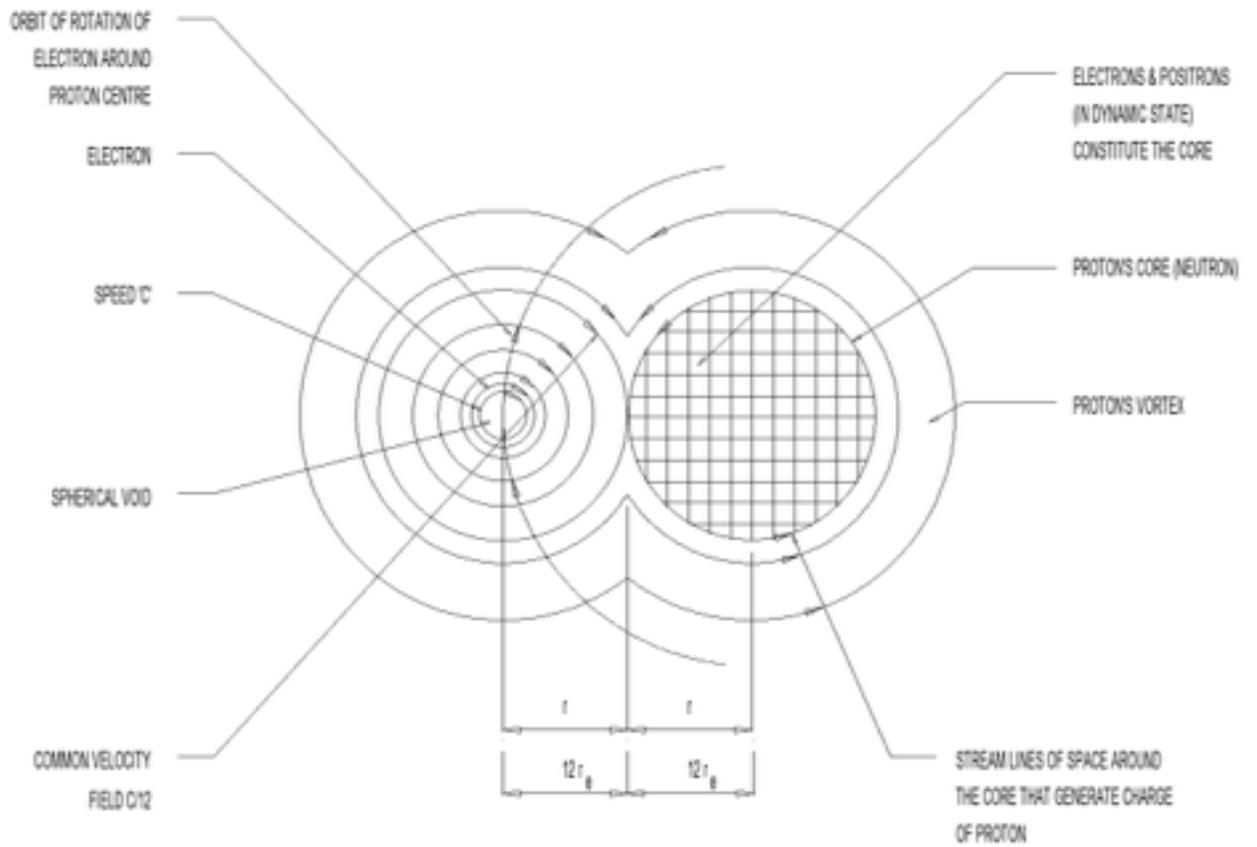
The decline in spectral radiance is due to the reaction from the fluid space acting on the oscillating atoms and is a natural process in fluid - space (SVT)

The wavelength of gamma pulses produced during annihilation of electrons and positrons can be derived from the electron structure: During annihilation of the electron and the positron, the oppositely rotating vortices on the interfaces of the particles superpose and nullify, thus the vortex rotation stops. The space fluid fills the void within the interface at maximum velocity c. The Electron radius is 4 x 10^ -11 cm. The time taken to fill the void = 4 x 10^ -11 cm / 3 x 10 ^ 10 cm /s = 1.3 x 10^ -21 sec; during this time one shell of light is formed around the interface with a wavelength equal to electron's interface radius = 4 x 10 ^ 10 -11 cm. The single shell sweeps the whole of universal space destroying the fields of the annihilated particles. This process is seen as light. The frequency of gamma radiation will be: electron radius / light speed = 0.77 x 10^ 21.

Planck's energy equation E = hf, as per SVT, signifies that "h" is the energy in one shell of light and in unit time of one second, f nos. of such shells are produced. For metallic sodium the threshold frequency for the photoelectric effect is 5 x 10^14/s.   With this frequency and the Planck constant, E is derived as: 7.2 x 10^ -11 ergs which is the energy in one shell of the incident light. The experimental value of the kinetic energy of the emitted photoelectron is 8 x 10^ -11 ergs. So close! This proves that the orbital electron is ejected form its orbit with the kinetic energy that it already possessed. The light shell interacting with it only triggered its release. Einstein mistook the kinetic energy of the photoelectron to be derived from the light shells created in unit time and stored in the atom where in the vortex of the atom there is no such storing mechanism.
The Photoelectric explanation of using packets of energy called Photons, in a departure from the wave nature of light, is a total misconception.

HYDROGEN ATOM

ORBIT OF ROTATION OF
ELECTRON AROUND
PROTON CENTRE

ELECTRON

SPEED 'C'

SPHERICAL VOID

COMMON VELOCITY
FIELD C/12

ELECTRONS & POSITRONS
(IN DYNAMIC STATE)
CONSTITUTE THE CORE

PROTON'S CORE (NEUTRON)

PROTON'S VORTEX

STREAM LINES OF SPACE AROUND
THE CORE THAT GENERATE CHARGE
OF PROTON

r

r

$12\,r_0$

$12\,r_0$

C = SPEED OF LIGHT IN ABSOLUTE VACUUM

r_0 = RADIUS OF SPHERICAL VOID

Authors Note: Our understanding of nature is in a phase of transition from an Empty Space to the Absolute Space of Reality, mistakenly called a "Vacuum" which means nothing. In the 17th Century, a Vortex Theory was introduced by Rene Descartes (1596-1650), referred to as the Great French Mathematician and Philosopher. Barring few natural philosophers of his time, his property-less fluid space and Vortex Theory did not get much attention. Later, it continued to be accepted for a century after Newton's Principia. What moves the planets and stars, what is the substance that builds matter universally, what is the cause of gravity, were some of the most basic questions on which Descatres must have meditated deeply and for long to produce the unique and unparalleled work of his time.

That light as a wave motion requiring a substantial fluid substratum was clear but the nature of the fluid could not be known. Realty of fields and a requirement of a fluid substratum for its creation and transmission, which Faraday and many natural philosophers believed, could not dislodge the Newtonian space of emptiness. With the discovery of electron, models of an electron - vortex by Maxwell, Lord Kelvin, Larmor, and others were being studied but the properties of ether could not be pinpointed for sure and remained elusive. Relativity theory (1905), as generally believed, abolished ether and that led to half matured and strange ideas to flood science with relativity and quantum physics, the foundations of both erected on empty space.

With the above background of scientific turmoil concerning the true nature of space, Space Vortex Theory (SVT) was formulated (1974-) that defines space : Absolute space, Mass less, Continuous, Incompressible, Non viscous; The theory of one constant, one substance, and one fundamental particle.

SVT may be rewritten in a more sophisticated way by expert scientists, engineers, but its Principles will not undergo any change for all the time to come.