

Principle of Quantization of Photons

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Abstract.

In given article is opened, that photons represent a ethereal sphere (cover) of electrons, which separates from the electrons at their braking and subsequent acceleration of motion. It occurs in molecules, where orbital electrons periodically collide with nucleuses of the next atoms of the molecule and brake their motion, but after collision the orbital electrons increase their velocity of motion. At passing of electrons through the ethereal sphere of the nucleus, the electrons fill the ethereal sphere, which will be let again out in the form of a photon. In article also it is described the emission of photons by electric current, and described the properties of photons.

1 Molecular Emission of Photons

In molecules the orbital electrons of one atom have tangential collisions with a nucleus of other atom of given molecule, as shown on fig. 1 of a molecule of hydrogen.

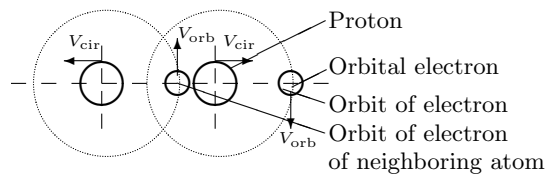


Figure 1: Molecule of hydrogen

At these collisions the orbital electrons reduce the velocity of their motion, but after these collisions the electrons because of inertial acc This

velocity is less than the limit velocity of motion of electrons in the surrounding ether (See article "Deetherization (Electrization) and Ionization of Atoms").

At orbital motion electrons have not the spherical form, but an extended in the long on direction of motion, as electron consists from longmats and ovalmats, having different mobility. Mobility of ovalmats is close to mobility of ethermats. Therefore the ovalmats of ethereal sphere of electron leave the longmats of base of electron, and when the electron terminate the acceleration, the removed ovalmats can inertially come off from electron, forming a more mobile elementary particle a photon, which leave from electron. Such phenomenon is similar to neutron disintegration on a proton, electron and antineutrino at increase in velocity of motion of a neutron.

At tangential collisions of orbital electrons of one atom with nucleus of other atom, the electrons passes through ethereal sphere of the nucleus, where the electrons decreased the velocity and are filled the ethereal sphere, due to that the electrons can to emitting again photons at new collision with the nucleus. After each collision with a nucleus before new collision, the electron can to emitting one photon. Emission of photons by body or gas molecules is called *molecular emission of photons*.

As at accelerated motion of electrons there is a leaving of the most mobile mats representing ethereal sphere of electrons, then the photons represent the most rarefied elementary particle in the form of a ring, shown on fig. 1. The more velocity of motion of electrons at photon emission, the emitted photon have a big mass. Photons have considerably smaller density than neutrons and electrons as photons do not consist from longmats, and only from ovalmats. Density of photons within density of ethereal sphere of nucleuses of atoms.

At heating of molecules, the photons coming from the outside, collide with nucleuses of atoms. At these collisions the photons can be absorbed by ethereal sphere of nucleuses if the photons consist of mats of that mobility which lacks in sphere of nucleus. Absorbed photons break up on separate mats, which mix up with mats of sphere of the nucleus. The photons consisting of mats, having a big average mobility than mats of sphere of nucleus, are absorbed by ethereal sphere of a nucleus. And the photons consisting of mats, having smaller average mobility than mats of ethereal sphere of nucleus, are not absorbed, and pass through ethereal sphere of nucleus up to an exit from a body. The atoms having heavier nucleuses have the ethereal spheres consisting of mats of smaller average mobility. Absorption of photons by ethereal sphere of nucleus of atoms is called *etherization of*

atoms.

Cold atomic gas does not do emission of photons as its orbital electrons cannot fill the ethereal sphere by ovalmats in the absence of collisions with nucleuses of atoms. Therefore atomic gas can do emission of photons only at its heating, i.e. at an irradiation its by photons. Hydrogen molecules at insufficient heating do not do emitting of photons as the nucleus of atom of hydrogen is one proton, at which small ethereal sphere.

Each chemical element of molecule does emission of spectrum of photons which differ frequency of emission and mass. This results from the fact, that atoms differ among themselves by quantity orbital of electrons in each orbit and by radius of these orbits, due to that the frequency of collisions of orbital electrons of different orbits of the given atom with a nucleus of other atom of a molecule - different. At one turn of atom there can be so much emitted of photons, how many orbital electrons collide with the nucleuses of atoms.

2 Electric Current Emission of Photons

Emission of photons by electrons can occur also at passage of an electric current through a conductor. At absence of an electric current the free electrons moves mainly in the middle between nucleuses of atoms, where the ether has the least density. The current electrons have much greater velocity of motion than the free electrons, and therefore the current electrons, passing through the internuclear ether, in a smaller measure bypasses around nucleuses, passing through ethereal sphere of the nucleuses, which less dense than the basis of nucleus.

At passage of an electron through sphere of a nucleus the electron decrease the velocity and fill the sphere by ovalmats, but after colliding with the nucleus, the electron move with acceleration and emit a photon at ending of acceleration of velocity, that occurs at achievement of limit of velocity of motion, or before collision, where the ether more dense. The current electrons are emitting photons of different mass depending on the reached velocity of motion. Frequency of collisions of electrons and therefore the frequency of emitting of photons at electric emission is casual. But at molecular emission, the frequency of emitting of photons depends on the structure of a molecule and on the etherization of atoms. Therefore the frequency of emitting basically is not property of photons.

In case of electric current passage through vacuum, the electrons move

from the cathode with acceleration till the limit velocity or till collision with other electrons, being in vessel. At motion acceleration electrons emit photons, which mass depends on reached velocity of electrons.

The photons emitting by orbital electrons of atoms of air, are visible as red light, and the photons radiated by free electrons, are visible as white light. This can explain by that, that the free electrons, emitted by the cathode in vacuum, have a more way of free motion between collisions with other electrons, than the way of motion of orbital electrons before collision with nucleuses of atoms. Therefore the free electrons in vacuum reach a great velocity of motion between collisions than orbital electrons, and accordingly emit photons, which have a greater mass.

3 Energy of Photons

The density of the ether round a nucleus of an atom, i.e. etherization of nucleus of atom, is defined by analogy to definition of strength of a nuclear field (see article "Principle of Formation of Nuclear Field"). Etherization around nucleus of atom decreases twice in inverse proportion to distance from the nucleus and directly proportional to mass of the nucleus.

$$\Pi = \frac{M}{r^2} \cdot K,$$

where M is the mass of nucleus, r is the radius of orbit, K is the factor of proportionality.

Etherization in last orbit of atom it is always equal 1, as at a surrounding ether. As in multielectronic atoms orbital electrons are in an attraction above orbital protons, then the last protonic orbit and electronic orbit have identical etherization $\Pi = 1$

If the nucleus of atom of hydrogen has no absorbed photons, i.e. is in a normal state, then the orbital electron of this atom is in a normal orbit, where the etherization $\Pi = 1$ If the atom of hydrogen has absorbed one or more photons, then etherization round nucleus of the atom increases, and the electron pass to higher orbit, where etherization $\Pi = 1$. Increase in radius of an orbit and velocity of motion of electron it is proportional to increasing of etherization of atom.

$$V = n \cdot K.$$

Where n is an emitted orbit, depending of its etherization, which defined by numbers 1,2,3 and K is a factor proportionality.

Emission of photons and absorption of photons by atoms occurs independently from each other. If an atom of hydrogen with minimum energy has absorbed one photon with a minimum energy, then the orbital electron pass to higher first energy orbit, whence will emit the same photon. If the nucleus of atom of hydrogen has absorbed such two photons, then the orbital electron passes into the second energy orbit, whence will emit also one photon, but with redoubled energy. And if the nucleus of atom of hydrogen has absorbed one photon with the minimum energy and one photon with redoubled energy, then the orbital electron passes into the third energy orbit, whence will emit one photon, but with a trebled energy. The atom can absorb also a photon with the trebled energy, and then to emit the same photon. Combinations can be different, but the atom can absorb the photons which sum of energy does not exceed admissible quantity. Energy of photons it is defined by their mass, because the limit velocity of different photons identical 300000 km/sec.

Atoms of more mass can absorb photons of more mass. If a multielectronic atom has two or more orbits of emission, then from higher orbits are emitted photons more mass.

The impulse (energy) of emitted photons in an orbit n is defined:

$$\Pi = m \cdot V = m \cdot n \cdot K$$

where m is the mass of a photon and V is the limit velocity of electron in the given orbit n .

Apparently, this formula corresponds to the formula of Planck

$$W = \nu \cdot n$$

if to accept that the quantity of mn is identical to frequency of emitting of photons ν , and the quantity of K is identical to Planck's constant h .

Conclusions

1. At absorption of photons by nucleuses of atoms there is a disintegration of these photons on separate mats (ovalmats) which become a part of ethersphere of the nucleus, due to that the radius of orbital motion of electrons.

2. Emission of photons by orbital electrons of atoms of molecule represents an exit forward and leaving of more mobile mats (ovalmats) of external sphere of electron at acceleration of motion of electron. The acceleration of

motion of electrons occurs after tangential collisions of electrons with nucleuses of the next atoms of the general molecule. At passage of electron through dense ethereal sphere of nucleus there is a braking of motion of electron, and there the sphere of electron filling by mobile ovalmats, which after leave at acceleration of motion of electron in the form of a photon.

3. The more the velocity has got orbital electron at its accelerated motion, the more the mass and accordingly energy of a emitting photon.

4. Frequency of emitting of photons depends on velocity of motion of the orbital electron and from quantity of electron in an orbit.