

WHO ARE GRAVITONS AND HOW DO THEY WORK

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The Summary

Photon and Graviton are different names of the same etheric wave item that are derived from the names of different functions inherent to this item. Photon-graviton is an integrated lacuna in a stream of elons reflected from the nucleus of an atom or molecule. Those photons-gravitons produced by astronomic bodies and acting on other ones are generated in their surface layers, while the photons-gravitons, which might be produced inside these bodies in no way influence the other ones. Every matter of atomic or molecular structure producing photons is at the same time a source of gravitation. Data on gravitational constants of astronomic bodies may be useful for the temperature measuring of their external graviton-emissive layers.

Graviton that received its name as early as in 1934 is as one may read from <http://en.wikipedia.org/wiki/Graviton>, a hypothetical elementary particle that according to the quantum field theory is porter of gravitational force. According to the theory, graviton is deprived of mass and inaccessible to determine experimentally. Nevertheless, scientists keep trying to register the gravitational waves foretold by A. Einstein and imagined as coherent states composed with multitudes of gravitons. They expect that at least two research projects: LIGO worthy of \$365 millions and VIRGO (which may be as much) may by the way of studying gravitational waves obtain important information about gravitons as well.

The aim of this study is to build a likely model of graviton on the basis of physics of ether, the last as I believe being the main agent in transporting physical actions through any distances.

One can imagine ether as a space, in every point of which there can meet elons moving thereto from anywhere. One might imagine any such point as a center of symmetry for any elon motion directed on it. The average velocity of such motions equals the speed of light c .

The expressed statement is illustrated by a provided as an example fig.1 where on a point A are directed 6 randomly chosen in the plane of drawing elon streams 1, 2, 3, 1a, 2a, and 3a, from which the three former are directed oppositely to the three later. Elons themselves are marked by arrows pointing the direction of movement, the red ones moving in the streams 1, 2, and 3, the blue ones – in the streams 1a, 2a and 3a. For more simplicity we will consider elons as coming to the point A from endlessness, and therefore by the same index numbers we will mark those endlessly distant areas of space where these streams are initiated.

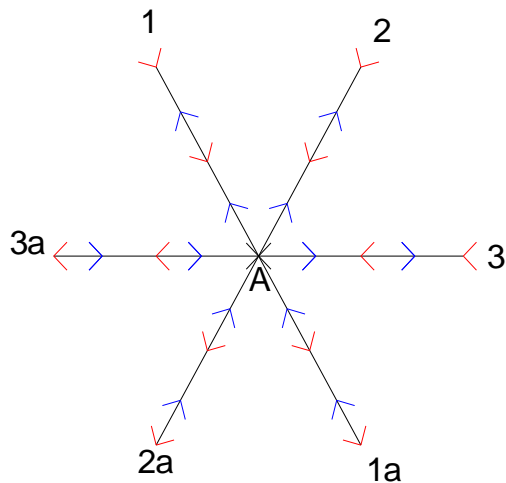


Fig.1

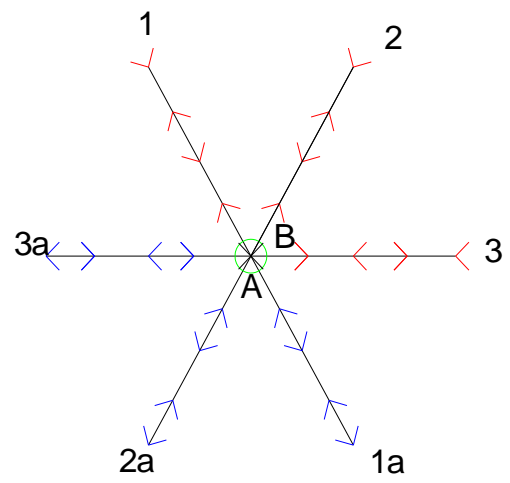


Fig.2

If in the point A to place a body B designated by a green circle (fig.2), it will reflect due to the said symmetry all elons directed thereon, and if earlier to the zone 1 came elons from the zone 1a, now from the same direction there will come elons previously generated in the zone 1 itself and later reflected by the body B.

Fig.3 represents two neighboring bodies C and D.

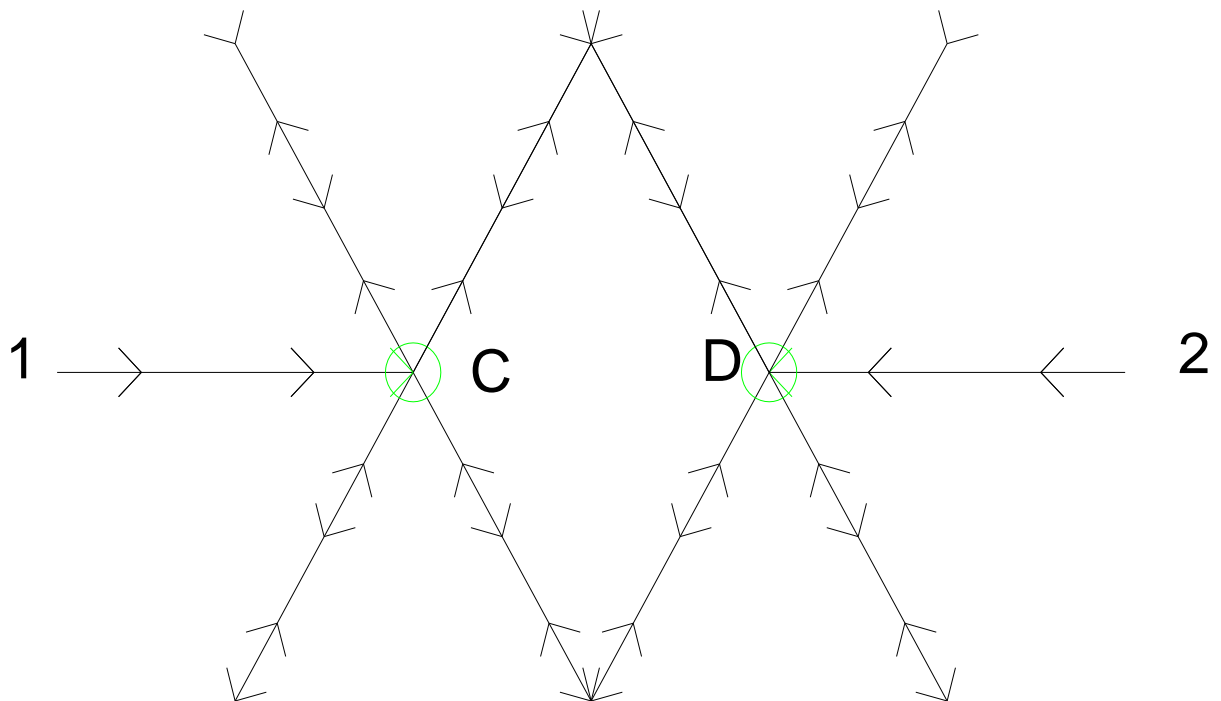


Fig.3

As one can see from the drawing, onto the body C are directed streams of elons from anywhere, except the direction 2, the last being screened for it by the body D. In the same way the body D is under ether pressure from anywhere except the direction 1, screened for it by the body C. Resulting from such screening there appear opposite forces drawing the bodies together, which had been described in my previous articles, e.g. <http://wbabin.net/physics/dunaev3.pdf>. Another consequence is that, the bodies C and D under the influence of the said drawing forces starting to move together, the reflection by the bodies C and D of the elon streams coming from the directions 1 and 2 at least partly diminishes.

When an electron is orbiting around the nucleus of an atom or molecule, then under the action of a stream of elons directed on it from the exterior along a straight line joining it with the nucleus, it is continuously declining from a straight trajectory prescribed to it by the 1st law of Newton to a circular orbit. On the other hand, the same elons which had accomplished the job of curving the electron's trajectory or more precisely making it circular lose their energy, and in the streams of reflected elons for a while there appear lacunas, which the length conforms to the duration of crossing by the electron the related stream.

As the electron's orbiting is going on, the above mentioned lacunas in the reflected elon streams, while continuously following one over another, create a wave in form of Archimedean spiral which in my previous article "PHOTONS, THEIR NATURE, AND MECHANISM OF THEIR FORMATION" I have named "primary wave" (see fig.4, as well as <http://wbabin.net/physics/dunaev2.pdf>).

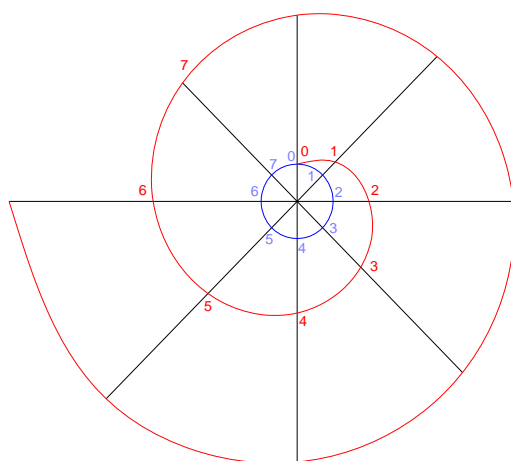


Fig.4

On fig.4 by a blue circle there is represented an orbital electron motion trajectory, and by blue numbers – the electron's positions. Particularly 0 marks its current position and 1, 2, 3 and more – the positions it took $\frac{1}{8}T, \frac{2}{8}T, \frac{3}{8}T \dots \frac{7}{8}T$ earlier where T is its period of rotation. The red curve represents a primary wave which is the geometric place of location of the above lacunas created resulting of the electron's rotation, while the points marked red relate to the locations of the lacunas generated in the relative points of the electron's trajectory.

In the same article there was also stated that in atoms and molecules a part of electrons move in one, and the other part – in the opposite direction, which provokes creation of a pair quantity of interacting primary waves. For instance, in hydrogen molecule which has two orbital electrons, their rotation provokes the creation of two primary waves that by the way of interacting create photons. The photon creation consists in the integration of point **lacunas in streams of reflected elons**, collected by primary waves along certain directions, which are the light propagation directions. Therefore photon has to be seen as an **integrated lacuna in the elon streams reflected by the nucleus of a generative atom or molecule**.

Fig.5a and 5b illustrate the creation of photons in a simplest and rather idealized case when a molecule having just two electrons (for instance a hydrogen molecule) does not rotate around its proper axis (that in practice is never the case). In fig.5a and 5b there is marked with blue color the circular orbit of two oncoming electrons, one of which further named as "R" rotates clockwise and leaves behind itself a primary wave marked red and further named also "R", while the other (electron "G") rotates counterclockwise and leaves behind itself a primary wave marked green (the wave "G"). The waves R and G are showed on the figures at some starting moment 0 related to the electrons encounter point 0 and at the moments 1-16 preceding the moment 0. The time interval 0-8 corresponds to the electron's rotation period T , precedent to the starting moment 0, while the time interval 8-16 corresponds to such period precedent to the period 0-8.

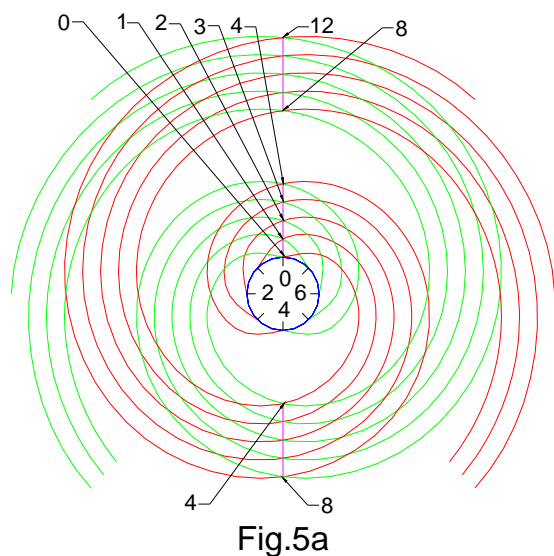


Fig.5a

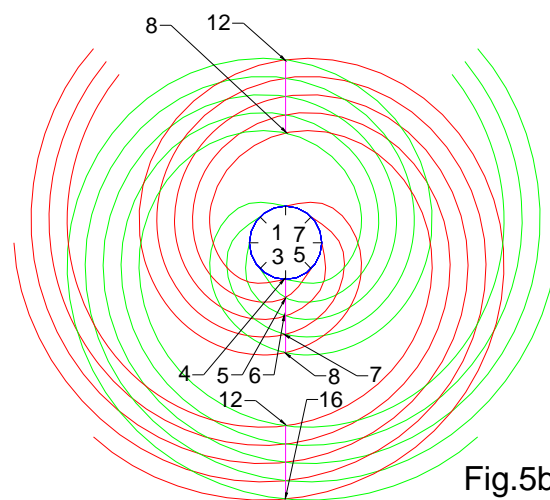


Fig.5b

Let us start the examination of the photons' formation with the point 0 that is the current encounter point of the electrons R and G, in which at the moment 0 are situated the beginnings of the primary waves R and G. As much as $\frac{1}{8}T$ earlier (at the moment 1) when the electrons were offset relative to the point 0: R by 45° , and G by -45° , the waves intersected in the point 1, yet by as much as $\frac{1}{8}T$ earlier (at the moment 2) they intersected in the point 2... and when they were offset relative the point 0 by 180° and -180° (moment 4) there took place the precedent electrons' encounter. Within the interval between the moments 0 and 4 the interacting primary waves had formed the photon 1-4 in form of a magenta segment directed upwards. The photon formation duration equaled in the examined case $\frac{T}{2}$.

Immediately before starting the formation of the photon 1-4 there ended the formation of the photon 4-8 directed downwards at the fig.5b, where the current moment is shifted to the past by $\frac{T}{2}$ relatively to the fig.5a. The same photon 4-8 is also shown at the fig.5a in a position precedent to the moment 0 by $\frac{T}{2}$. On the drawing one also may notice the photons 8-12 and 12-16, the formation of which had been completed one and one and a half periods earlier than the moment 0.

In the above article there was also stated that the relation between the rotation frequency of hydrogen molecule and the orbital frequency of its electron is equal to a fraction $\frac{m}{n}$, where m and n are those integers which enter the Balmer-Rydberg formula, and that the full number of the light propagation directions is equal to $2n$. Therefore for instance, if the third line of the Lyman series has $n = 4$, the full number of photons created during one turn of the molecule will equal eight.

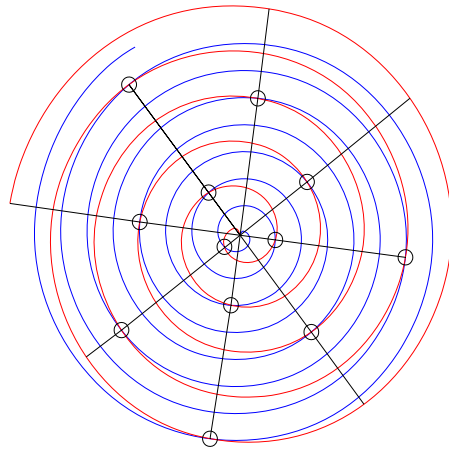


Fig.6

As one could see from fig.5a and 5b and as one can see from fig.6, the photon formation process is continuous one, the end of formation of one photon turning without interruption to the beginning of formation of the other one. For the third line of the Lyman series chosen as an example, the photon formation time distribution is represented on a diagram of the fig.7.

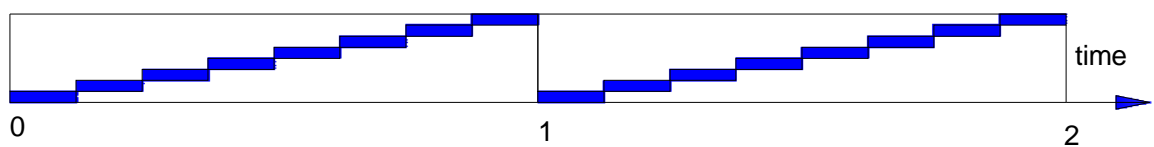
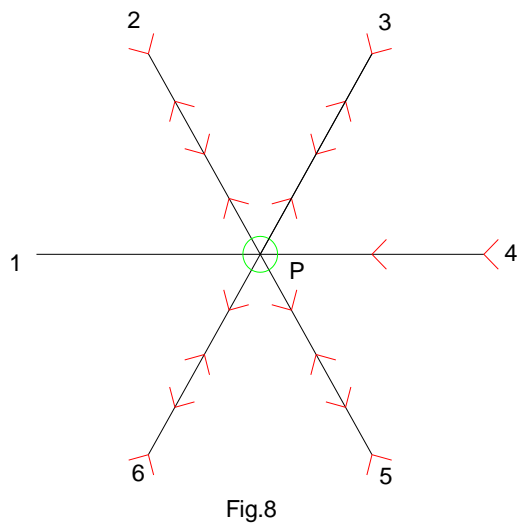


Fig.7

The point 0 of the diagram is the reference point where starts the first turn of the molecule around its axis. The point 1 marks the end of the said first turn and the beginning of the second one which ends in the point 2. The blue rectangles stand for the photons formed during the said two turns of the molecule. As one can see from the diagram, during each turn of the molecule there are gradually creating eight photons, and for each light propagation direction the duration of photon makes $1/8$ of the duration of one light wave.

Accounting for the expressed ideas about photon as of a lacuna in a stream of elons reflected from the nucleus of a generative atom or molecule, let us examine as an example the interaction of a hydrogen molecule situated on the surface of the Sun and a particle P situated on the surface of the Earth (see fig.8).



The particle P of the fig.8, as well as all particles situated in etheric medium, receives elons from all directions, but from the direction 1 it receives a stream of light generated by the solar molecule. The said stream of light embodies a sequence of photons which as it has been already established are lacunas in a stream of elons reflected from the nucleus of the solar molecule. When such lacunas come to the particle P the stream of elons arriving from the opposite side 4 becomes unbalanced by the elons which at this moment had to arrive from the side 1, and the particle P receives an impulse of force directed towards the solar molecule.

The surface layer of the Earth placed under the solar radiation is therefore under the action of force impulses directed towards the Sun, which can be recognized as the embodiment of the solar gravitation; and generalizing there may be stated that **any matter of atomic or molecular structure while being the source of photons is at the same time the source of gravitation.**

Another interesting conclusion from the above information may be formulated as that **the yet unfound gravitons can be wholly associated with the long ago known but not yet by anybody understood photons.**

Here it would be proper to add that the expressed views on the identity of photons and gravitons, and in other words on the closest relation between radiation and gravitation confirm themselves by the ideas expressed in my previous article "MASS, GRAVITATION, AND DARK MATTER" <http://wbabin.net/physics/dunaev.pdf>.

According to one of them the graviton-emissive and graviton-receptive functions are accomplished in the Sun and solar system planets by the surface layers of these astronomic bodies, while in gravitational processes their internal layers do not play any role; and absolutely the same one may say apropos their photon-emissive and photon-receptive functions.

Noteworthy in the mentioned article are data on gravitational constants of astronomic bodies which represent graviton-emissive capacities of their unitary surfaces. Correlations between these values intuitively match ones between their photon-emissive capacities.

The mentioned article also affirms that data on gravitational constants of astronomic bodies can be helpful for determining temperatures of their surface graviton-emissive layers; and this is completely confirmed by the conceptions expressed in this work.

Conclusions:

- 1) Photon and Graviton are different names of the same etheric wave item that are derived from the names of different functions inherent to this item;
- 2) Photon-graviton is an integrated lacuna in a stream of elons reflected from the nucleus of an atom or molecule;
- 3) Those photons-gravitons produced by astronomic bodies and acting on other ones are generated in their surface layers, while the photons-gravitons, which might be produced inside these bodies in no way influence the other ones;
- 4) Every matter of atomic or molecular structure producing photons is at the same time a source of gravitation;
- 5) Data on gravitational constants of astronomic bodies may be useful for the temperature measuring of their external graviton-emissive layers.