Various Effects and Working Principles of Light Waves (19)

- For a rational understanding of light waves -

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Abstract

1. The initial light wave released by electrons consists of particle models of the individual unit. That is, light waves do not have the frequency and wavelength of the wave concept However, the photomagnetic commutatively acts in the propagation process of light waves. As a result, the wavelength of the new order and the shadow effect occur subsequently.

2. The photocurrent of light waves partially has a function of electric force and can substitute for the role of electrons. Due to the intervention of the photocurrent, the photoelectric effect occurs. In addition, the polarization effect takes place through the process in which the cross section of the photomagnetic is transformed into an ellipse.

3. The photocurrent is reflected on the wall of the electric field, and the buffer effect on the reflection process is expressed as the Compton Effect. Also, when the photocurrent and the photomagnetic of light waves are used separately, various phenomena of light waves are analyzed specifically. Therefore, all logical claims that accept quantum mechanics and the wave nature of light waves should be modified.

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Sequence

※ For your reference – This paper denies some arguments of quantum mechanics, and suggests a new alternative. It is hoped the quantum mechanics of the abolition target will be excluded from the judgment standard.

Ⅰ. Introduction

From the perspective of general physics, the structure of light waves (electromagnetic waves) is known to have both particles and the wave nature. However, the form of light waves which combine the wave nature and particles into one system has not yet been presented to date. Here, the double combination of the particles and the wave nature is fundamentally impossible. If the particles and the wave nature are combined into one system, it will have a logical contradiction in terms of different conditions.[17] <http://batangs9.com/E-17.pdf>

The reason why the particles and the wave nature of light waves simultaneously occur is that various phenomena of light waves are expressed as the popular logic. For example, if a similar effect to the wave

model is found, one can confirm the wave nature of light waves. This popularly logical expression can be very simple, but it does not help us approach the fundamental nature of the problem.

As described in the previously introduced thesis "The Structure and Functional Characteristics of Electromagnetic Waves," the initial light wave released by the electrons of autonomous vibration does not have the wavelength and the frequency of the wave concept. However, when multiple light waves are propagated collectively, the wavelength of the new order is formed subsequently. Here, the wavelength of two light waves mean the wavelength of the wave concept.[17]

<http://batangs9.com/E-17.pdf>

Light waves at the speed of light has the function of an electric current (flow of electricity) like the motion of the electrons. The current function of these light waves will be called "photocurrent" for convenience from here on. Here, the "photocurrent" of light waves and the displacement current of the motion electrons can only be distinguished by the difference of the scale (size, quantity), and consist of the same elements. Also, the magnetic force with the direction of the vertical rotation is generated around the "photocurrent" as in Fleming's law. The magnetic force of these light waves will be called "photomagnetic" for convenience.

Due to the process in which the photocurrent of light waves commutatively depend on, the cluster of the individual unit is made. Here, the cluster of light waves has the characteristics of a particle model.

However, the wireless electromagnetic wave produced by the displacement current of the motion electrons is composed of the pure wave of the longitudinal model and does not have the functions of particles. Therefore, the particles of light waves and the wave nature of wireless electromagnetic waves should be strictly distinguished.[17]

<http://batangs9.com/E-17.pdf>

In the body of this thesis, I will explain the conditions in which the cluster (particles) of the photomagnetic and the photocurrent are conserved permanently. Also, the process in which various phenomena of light waves occur through the individual function of the photocurrent and the photomagnetic will be introduced.

Ⅱ. Body

As described in the previously introduced thesis **"The Structure and Active Functions of Elementary Particles,"** The vibrational energy of the light velocity acts as the current progression inside all elementary particles. The vibration energy of elementary particles and the wave energy (photocurrent) of light waves are composed of the same kind of work energy, and have the same light velocity in common. Therefore, elementary particles of autonomous vibration can absorb (resonate) light waves at the speed of light and instantaneously emit light waves at the speed of light.[7]

<http://batangs9.com/E-7.pdf>

The form of light waves is composed of the photocurrent and the photomagnetic, and the displacement of the light velocity is led by the

photocurrent Also, in space where the photocurrent passes, the photomagnetic with the direction of the vertical rotation occurs. However, the photomagnetic with the direction of the vertical rotation does not obsessively follow the photocurrent and it will be extinct at its original place (space) after the photocurrent passes.

Space conserves the photomagnetic of light waves, and the photomagnetic of light waves reflects the characteristics of space. Also, electrons of autonomous vibration only absorb (or release) the photocurrent and do not absorb the photomagnetic. Therefore, the functions of photocurrent and photomagnetic should be handled separately.[17]

<http://batangs9.com/E-17.pdf>

The photocurrent of light waves is composed of batangs (pyeongs) and propagated by the elasticity of the light velocity. The photocurrent has 3 elements: **"light energy quantity"**, **"light matter quantity"**, and **"light pressure"**. Here, the **"light energy quantity"** of the photocurrent means the displacement of batangs, and the **"light pressure"** of the photocurrent means the pressure (energy density) of batangs. Also, the **"light matter quantity"** of the photocurrent refers to the volume of batangs.[18]

<http://batangs9.com/E-18.pdf>

The light pressure of the photocurrent was replaced bythe frequency of the wave concept in general physics. The light pressure of the photocurrent is inversely proportional to the distribution range of the photomagnetic. Also, the wavelength of the wave concept reflects the distribution range of

the photomagnetic. However, the existence of the light matter quantity has not been recognized from the perspective of the wave concept.

The higher the energy density (light pressure) of the light wave is, the more the concentration of the photocurrent and the photomagnetic, and the distribution range (wavelength) of the photomagnetic becomes narrower. If the individual function of the photocurrent and the photomagnetic is used, various phenomena of light waves can be interpreted as the rational logic.

1. Wavelength of light waves

When multiple light waves are propagated collectively, the wavelength of two light waves is formed subsequently by the commutative action of the photomagnetic. The working principle in which the wavelength of these light waves is formed can be easily understood through the diagram in Figure 1.

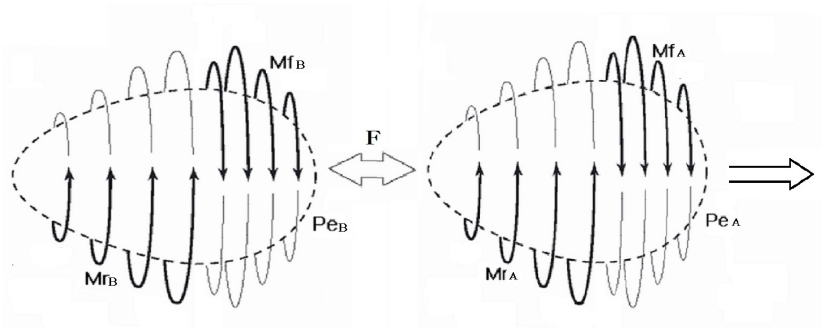

Figure1. Diagram showing the process in which the wavelength of two light waves is formed

In the diagram shown in Figure 1, Pe_A is the photocurrent at the front, Pe_B is the photocurrent at the back, the big arrow $\Rightarrow$ is the direction of the progress of two photocurrent, Mr_A and Mf_A are the photomagnetic of the

photocurrent at front, Mf_B and Mr_B are the photomagnetic of the photocurrent at the back, small arrows ↑ and ↓ are the directivity of the magnetic force and F is the buffer space caused by the interactive action of two magnetic forces (Mr_A, Mf_B).

As shown in Figure 1, the photomagnetic (Mr_A, Mf_B) of two light waves which are facing each other has opposite rotational orientation function. The vacuum part of the magnetic force and the buffer space of F occur between these two photomagnetic. For example, the vacuum part of the magnetic force exists at the center of all photocurrent (Pe_A, Pe_B).

The front photomagnetic (Mr_A) and the rear photomagnetic (Mf_B) share the buffer space of F, and are connected (combined) as one system. That is, the connective arrangement of the photocurrent is formed as if multiple marbles are consecutively strung in one single thread. Therefore, two photocurrents of Pe_A and Pe_B have the arranged structure of the wavelength model.

2. Shadow effect of light waves

The initial photocurrent released by the electrons of autonomous vibration is arranged in disordered wavelength. However, when multiple photocurrents pass the boundary of the barrier, the side of the photocurrent is concentrated like the diagram in Figure 1, and the regular wavelength is formed. However, the light wave of the laser maintains the wavelength at the constant size since the initial release. [17] <http://batangs9.com/E-17.pdf>

Two stems of the photocurrents in which the wavelengths are arranged

regularly can have a vacant part and an overlapping part at the point of intersection. The vacant part and the overlapping part of the photocurrent was misunderstood (delusion) as the shadow effect of the wave concept in general physics.

3. Photoelectric effect

The photocurrent of light waves partially has a function of electric force (electric field). Therefore, the photocurrent of light waves can substitute for the role of electrons. Also, when the photocurrent of light waves enters inside the atom, the electric force of protons and the photocurrent of light waves interact with each other, and the attraction of the electrons to the protons will temporarily be interrupted.[17]

<http://batangs9.com/E-17.pdf>

If the electric force of protons and the photocurrent of light waves act inside the atom, the role of electrons becomes unnecessary. Therefore, the orbital electrons of an atom are autonomically released with the reaction of the binding forces. That is, the orbital electrons get freedom against the protons. Here, the electrons which are released to the outside of the atom have a photoelectric effect.

As recognized in general physics, if the photoelectric effect takes place due to the collision between the light waves and the electrons, the incidence angle of light waves and the release angle of electrons should be symmetrical. However, the release action caused freely by the electrons has a uniform vertical direction on the surface of metals.

The bonding strength of protons and electrons differ with the types of metals. Also, the kinetic energy of the released electrons reflects the binding force of protons and electrons. Therefore, the released electrons will have different kinetic energies based on the type of metals.[8]

<http://batangs9.com/E-8.pdf>

4. Diffraction effect

The photocurrent of light velocity has a very small cross section, but the photomagnetic with the vertical rotational function is distributed in a very wide area. Also, when the photomagnetic of light waves is disturbed from the lateral direction at the boundary of the barrier, the distribution range of the photomagnetic is tendentiously decreased. The biased transformation of this photomagnetic is directly delivered to the photocurrent of the linkage target.

If the distribution range of the photomagnetic is tendentiously reduced, the diffraction effect takes place due to the process in which the progress direction of the photocurrent is curved. Here, the less the light pressure of the photocurrent is, the wider the distribution range of the photomagnetic is. Also, the rate of the biased transformation of the photomagnetic is increased. Therefore, the photocurrent with low light pressure has a big diffraction effect.[17] <http://batangs9.com/E-17.pdf>

5. Reflex effect of light waves

The reflecting surface of a mirror is composed of elementary particles and the diameter of elementary particles (electrons) is very small. Also, all

elementary particles of the mirror permanently maintain their autonomous vibration of expansion and contraction, and the distance between elementary particle (A) and another elementary particle (B) is very large. Therefore, the probability of face to face collision between elementary particles and the photocurrent is very low. That is, the reflecting surface of a flat structure like a marble wall does not exist at the level of elementary particles.[7] <http://batangs9.com/E-7.pdf>

The wave energy of the electric field generated around the electrons has a high pressure, and forms a wall of resistance function. Therefore, when the light pressure of the photocurrent is lower than the wall of electric field, the photocurrent is reflected on the wall of the electric field. However, X-rays and gamma rays which have higher energy than the electric field wall penetrate it.

6. Compton Effect

The volume of elementary particles (electrons) is very small, and the distance between elementary particle (A) and another elementary particle (B) is very wide. Also, the cross section of light waves released by electrons has a very small diameter. Therefore, the probability of collision between elementary particles and light waves is very low like Compton's argument.

The wave energy of the electric field is composed of pressure, and the pressure of the wave energy has an elastic (cushion) function. Therefore, the buffer effect takes place during the reflection process of the photocurrent,

and a part of the photocurrent is lost. Here, the partial loss of the photocurrent is expressed as the reduction of the light pressure, and the reduction of the light pressure is the causative function of the Compton Effect.[8] <http://batangs9.com/E-8.pdf>

7. Change in light velocity

The propagation velocity of light waves inside the transparent glass (dielectric) is reduced. The reason why the reduction of light velocity takes place is that the batangs which are used as the medium of light waves has a slow elastic force. That is, the elastic force of batangs are changed by the effect of the transparent glass.[2] <http://batangs9.com/E-2.pdf>

All elementary particles in the transparent glass permanently maintain their autonomous vibration of expansion and contraction. Also, the wave energy of the electric field generated by the elementary particles of autonomous vibration is maintained by using batangs in space as the medium. Here, the batangs in space which are used as the medium continuously receive the stress of the wave energy.[6]

<http://batangs9.com/E-6.pdf>

When batangs in space receive the stress of the wave energy, the level of freedom for batangs is reduced. In other words, the elastic force of batangs is limited as much as the size of the wave energy. Therefore, the propagation velocity of light waves which uses batangs as the medium is reduced. Likewise, the effect in which the propagation velocity of light waves is reduced inside the electric field can be examined through a simple

experiment using the interferometer.

8. Refraction effect of light waves

When light waves penetrate the boundary of the transparent glass (dielectric), the propagation path of light waves is divided into various spectrums. Here, the inside and outside of the transparent glass have spatial backgrounds with different conditions. That is, the inside and outside of the transparent glass are composed of the medium of light waves but the elastic force of the medium act in different magnitudes.[6]

<http://batangs9.com/E-6.pdf>

The light pressure of the photocurrent which acts vertically at the boundary of the transparent glass is relatively reduced as much as the rate of change of the elastic force. However, the light pressure of the photocurrent which acts horizontal to the transparent glass maintains its original value consistently. The angle of refraction of light waves is determined by the process in which the vertical and horizontal light pressure are combined into one vector.

The higher the light pressure of the photocurrent at the boundary of the transparent glass, the lower the rate of reduction in the vertical direction is. Therefore, the photocurrent with high light pressure will have a small rate of refraction. Here, the angle of refraction of the photocurrent reflects the relative change of the light pressure, and is not determined by the change in light velocity like Snell's law.

9. Polarized Effect

Polarization is known to have the wave of the transverse model from the perspective of general physics. However, when the directions of the electric field wave and the magnetic field wave cross vertically like Maxwell's claim, one of them will be blocked during the integration process of the polarization. Also, for the propagation of light waves to maintain the light velocity, C, the displacement curve of the transverse model will have a logical contradiction in which it should be propagated at the hyper light velocity of $C+V$.

The photocurrent of light waves released by electrons of autonomous vibration is composed of the particle model of the individual unit. The wave nature of light waves in this particle model of individual unit is excluded. Also, the photocurrent of the individual unit has a circular cross section, and the oriented function of the photomagnetic acts in the normal circular shape.[17] <http://batangs9.com/E-17.pdf>

When light waves with the circular cross section are affected by polarization, reflection, diffraction, refraction, and so forth (stress), the cross sections of the photomagnetic and the photocurrent turn into an ellipse. Here, the effect in which the photocurrent of light waves and the photomagnetic have an elliptical cross section can be easily understood in Figure 2.

In Figure 2 (A), E is the cross section of the photocurrent which goes vertically into the surface, m is the cross section of the photomagnetic

which occurs at the direction of superficial rotation on the surface, and the photocurrent of E and the photomagnetic of m consist of a circular cross section. However, the photomagnetic of m' and the photocurrent of E' which receive the stress from the outside in Figure 2 (B) are composed of elliptical cross sections.[17] <http://batangs9.com/E-17.pdf>

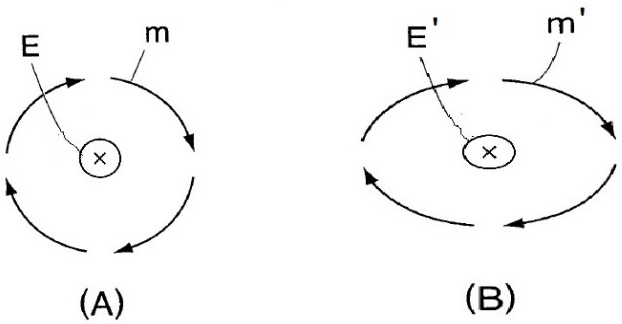

Figure 2. Sectional view showing the photocurrent and the photomagnetic with the polarization effect.

As shown in Figure 2 (B), the cross section of the ellipse which the photocurrent and the photomagnetic of light waves have acts as the causative function of the polarization effect. Here, the cross section of an ellipse has a major axis from left to right and the minor axes from top to bottom. Therefore, the various effects (refraction, diffraction, reflection, shadow, and others) of polarization are dominantly influenced by the direction based on the major and minor axes.

10. The uncertainty principle of light waves and elementary particles

The electrons of autonomous vibration freely release or absorb the photocurrent of light waves. Therefore, the cross section of the

photocurrent is assumed to be the same or smaller than the diameter of electrons. In addition, the photocurrent of all light waves have cross sections with the same diameter and the light matter quantity with the same size. For example, the photocurrent of infrared rays, visible rays, and ultraviolet rays are composed of cross sections (light matter quantity) with the same diameter.

However, the photomagnetic which occurs at the direction of the vertical rotation of the photocurrent has a very wide distribution range. Here, the distribution range of the photomagnetic is expected to be several thousand times bigger than the diameter of the photocurrent. This is because the photomagnetic of light waves cannot pass through a tunnel which is thousands of times larger than the diameter of electrons. If degradation (reduction on the light pressure) on the photomagnetic is started in the tunnel with the diameter of x, the size of x refers to the distribution range (diameter of cross section) of the photomagnetic.[17] <http://batangs9.com/E-17.pdf>

The distribution range of the photomagnetic acts as the causative function of the uncertainty effect. Here, the light pressure of the photocurrent is inversely proportional to the distribution range of the photomagnetic. That is, the higher the light pressure (density of energy) of the photocurrent, the narrower the distribution range of the photomagnetic, and the uncertainty effect of the photocurrent is reduced. Also, the uncertainty effect takes place during the motion process of the elementary particles which maintain their autonomous vibration.[7]

<http://batangs9.com/E-7.pdf>

Ⅲ. Conclusion

All areas in space are composed of batangs, and batangs in space have a causal connection to all physical phenomena. That is, the characteristics of batangs are used during the occurrence process of all physical phenomena. For example, the photocurrent of light waves use batangs as a medium to be propagated by the elastic force of light velocity.

During the propagation process of light waves, a cyclical cluster of the photocurrent and the photomagnetic is formed. When the photocurrent and the photomagnetic of these light waves are used separately, various phenomena of light waves are interpreted specifically. Therefore, all logical claims which accepts quantum physics and the wave nature of light waves must be modified.

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* Difference becomes specialty, Ideal becomes reality,
at the center of world in the name of center

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