# Light wave is a P-wave?

LI WeiGang
(Bin jiang school, Ankang 725011, China)

After the demonstration of free electrons can not do in the strict sense of the uniform linear motion, linear motion of free electrons do understand that, along with the direction of motion along the axis of the electron, the electron motion neighborhood, there is an alternating electric field, and a surround of the electric field alternating magnetic field. Figure 1 below:

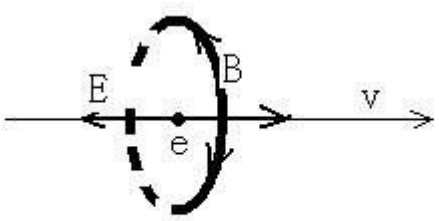


Figure 1

Since then, secretly I guess photons should be as shown in Figure 2:

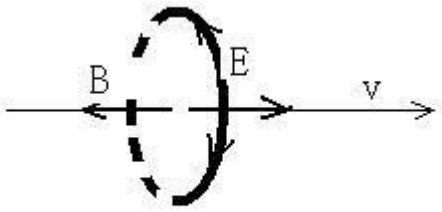


Figure 2

However, this speculation, I could not find any basis, not arrogantly. Finally, today's visit Dr. Fan Jing blog, and occasionally a blog "Maxwell's equations may P-wave solution" treasure, immediately read it; find the thread, Professor Wen keling can not deny the near-field P-wave solution:

**[13]Wen keling** 2013-11-20 21:07

Electromagnetic field (E, H) no P-wave solution. Bloggers discuss the near-field solution. Spherical wave solutions according to 1 / r decay, energy can be transmitted to infinity. Near-field solution by 1 / r * r and faster decay, the total energy transmission decays rapidly with distance.

(Note: "and it decays rapidly with distance." This was in line with the photon energy is concentrated in a relatively small area characteristics).

Professor Luo Jiaoming is rightly pointed out long ago:

**[17]Luo Jiaoming** 2014-1-25 15:37

Electromagnetic wave is a P-wave or S-wave, should come from the generation source test analysis. In fact, the electric dipole vibration, the presence of a P-wave vibrating in the axial direction, is neglected. And the vertical direction in the axial direction is S-wave.

More importantly, Professor Luo Jiaoming further pointed out:

**[18]Luo Jiaoming** 2014-1-26 19:00

Energy is transferred from the polar direction of P-waves, in fact, the photons should it be interpreted S-wave is accompanied by only minor. From my thesis vibration orbital method, it can be directly obtained.

The blogger Dr. Fan Jing reply:

**Bloggers Reply** (2014-1-27 12:32): Truth is convergent. We can smile holding flowers.

Seen in this light, "Figure 2" photons, Professor Luo Jiaoming long been recognized! Indeed, as Dr. Fan Jing said - truth is convergent. Converges to the photon is a P-wave!

So, why people have long believed light waves are S-wave it?

Traced in that linearly polarized light experiments require that the S-wave. That the only way to explain the phenomenon of linear polarization. However, if the above photon do that kind of understanding, then no single photon is linearly polarized! Coupled with appropriate phase two photons, the near-field vibration direction of the electric field was presented as some kind of linear polarization direction, can concerted direction by the analyzer polarizer.