

Everything About Photons (the Atom of Sub-atomic Particles, Superstring, Basic of Quantum, etc.) in the Universe

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The photon is described as the lightest, fastest, and most agile particle known in the cosmos. However, it is not directly visible; it is the primary agent responsible for the visibility of all objects. From the perspective of Saleh Theory, photon is not only the building block for particles like electrons, protons, and neutrons but also forms the foundation of electromagnetic waves and even the very nature of forces and energies.

According to Saleh Theory, photon has a constant rest mass. All particles that constitute an atom—namely electrons, protons, and neutrons—are made of photons. In other words, the photon is the building block of all particles in the universe. This photon is said to have 11 dimensions of motion or degrees of freedom, which are explained in detail by Saleh Theory. Therefore, photon, in its internal motion, behaves like strings that form the particles. However, if we calculate the velocity of a photon, we find that it has a three-layered helical motion:

First helix: The large helical path created by the combination of the linear motion and the rotational motion of the electron (which generates the photon) around the nucleus.

Second helix: This results from the combination of the first motion and the rotation of the electron about its own axis.

Third helix: This is the result of combining the first and second motions with the photon's own rotation about its central axis.

In each layer, the total velocity of the photon is a combination of its linear and rotational components. The total speed of the photon in this model is approximately 4.8 times the speed of light (4.8 C).

Calculations of the photon energy at the laboratories of MIT and the University of Michigan have reportedly matched experimental results. The discrepancy with the Planck equation at short distances is attributed to the absence of rotational energy dissipation on this scale.

Using the relationship between translational and rotational energy, the radius of the photon's helix is determined as follows:

$$\frac{1}{2}mv^2 - \frac{1}{2}mr^2\omega^2 = h\nu$$

where m is the mass of photon, “v” is the velocity of photon, “r” is the radius of the photon's rotation in its helical motion, “ω” is the constant angular velocity of photon, “h” is Planck's



constant, and “ ϑ ” is the frequency.

From an energy perspective, the total energy of a photon is the sum of its linear and rotational energies:

$$E_T = E_L + E_R$$

In which at a frequency of 600 THz, these two energies are equal.

The relation between Planck's energy and the energy introduced in Saleh Theory is as follows, which introduces a new energy constant called *Saleh constant (S)*:

$$S_i = h\vartheta$$

The value of “S” is the same minimum amount of energy or the quantum of energy, which is equal to one-half the mass multiplied by the photon's velocity squared. The term “i” represents the percentage of linear energy, which varies at different frequencies. This structure allows the photon to be defined as the smallest unit of quantum energy.

In this view, photon is made up of more fundamental particles called Cidtonium, which, upon the photon's decay, move at the same final velocity as the photon.

Conclusion

The equations proposed by the Saleh Theory Group offer a new and complex view of photon in which helical motion, internal energies, and rotational dynamics play a fundamental role. This perspective could create a new link between quantum and relativistic theories and open up new horizons in theoretical physics.

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