Twelve Compelling Arguments for Considering the Photon as the Primary Building Block of the Universe

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The photon plays an essential role in many natural phenomena, from the transfer of energy at the atomic scale to stellar radiation and cosmic evolution. The physical properties of the photon and its extensive presence in diverse processes raise the question of whether its role is confined to the transfer of energy or whether it may also be regarded as involved in the fundamental structure of matter.

Saleh Theory rests on the view that the photon may occupy a more fundamental position in the structure of the universe and play a role in the formation of particles, matter and physical phenomena. In this paper, twelve arguments and phenomena related to this view are examined, from the structure of fundamental particles and the relation between mass and energy to nuclear reactions, electromagnetic radiation and cosmological evidence. The aim is to present a coherent collection of arguments advanced within the framework of Saleh Theory to explain the fundamental position of the photon in the universe.

1. The Structure and Properties of Electrons, Protons and Neutrons

Just as galaxies and atoms possess defined structures, electrons, protons and neutrons likewise possess intrinsic structures. According to articles previously published on Saleh Theory, the structure of these three fundamental particles is described on the basis of their properties, with each of them composed of a set of photons as the fundamental units, the number of photons differing from one particle to another [1].

2. The Existence of Discrete Energy (Consistency with Quantum Theory)

According to quantum theory, energy is not continuous but exists in discrete packets. Saleh Theory proposes that the discrete energy observed in all energy transfers during the formation or disintegration of structures corresponds precisely to the photons that originally constituted those structures.

3. Explanation of the Unification of All Forces

On the basis of previous articles on Saleh Theory, taking photons as the fundamental building blocks of all matter renders the demonstration of the unification of the four fundamental forces readily possible [2].

4. Explanation of the Unification of All Forms of Energies

Likewise, with photons taken as the primary building blocks of all matter, Saleh Theory permits the unification of all forms of energy in the universe to be readily demonstrated [3].

5. The Internal Activity of Stars and the Emission of Photons

Observation of the internal activity of stars, essentially described as their "burning", shows that a very large quantity of a star's mass is continuously converted into photons emitted from it. This indicates that, in this process, mass is being converted back into its original constituent components, namely photons.

6. The Observation of Photons in Nuclear Explosions

The fission of large atomic nuclei, such as uranium, releases an enormous quantity of energy and a very large volume of light within a fraction of a second. This abundant energy and light originate from the release of energy or the splitting apart of atomic nuclei, namely protons and neutrons, and are consistent with photon emission.

7. Photon Emission during Electron Excitation and Return to the Ground State, during Proton Collisions and in Beta Decay

Photons are released when electrons are excited and then return to their ground state, when two protons collide, and in beta decay, in which a neutron decays into an electron and a proton. This indicates that all of these processes concern structures composed of photons at the most fundamental level.

8. The Famous Formula of Mass–Energy Equivalence

The famous formula

$$E = mc^2$$

may be interpreted as follows: since any mass that reaches the speed of light is converted into energy, this indicates that all masses are composed, from the outset and at their foundation, of photons.

9. The Big Bang Phenomenon

The Big Bang phenomenon, in which an enormous quantity of energy was released within a small space, followed by the formation of particles such as electrons, protons and neutrons and subsequently of atoms and molecules, indicates that all of these entities originated from a single and identical source, namely photons. The photon is therefore the primary building block of the universe [4].

10. The “Theory of Everything” Equation

The “Theory of Everything” formula ($E_{et} = N\,{}^{1}/_{2}\,m_p(c^2 - r^2\omega^2) = N'\,h\vartheta$) demonstrates that all of its parameters, including mass, speed and frequency, are associated with photons and their various states. This particular formula essentially states that the photon is the fundamental building block of all existence, such that its mass and speed are constant and the only real and effective variable is the number of photons [5].



11. Cosmic Background Radiation

Cosmic background radiation constitutes one of the most important observational phenomena in cosmology. This radiation consists of photons remaining from the early stages of the evolution of the universe, observed today throughout the cosmos. Examination of the properties of this radiation provides scientists with valuable information concerning the early universe and the manner of its evolution.

According to Saleh Theory, the extensive presence of photons throughout the history of the evolution of the universe and the persistence of this radiation from the early stages of the cosmos constitute one of the important arguments for examining the fundamental role of the photon in the structure of the universe. Together with the other arguments advanced in Saleh Theory, this emphasises the importance of examining the photon as a candidate for the fundamental particle constituting the universe.

12. Photon Emission Resulting from the Explosion of Electrons in the Tungsten Filament of a Lamp

When an electric current passes through the tungsten filament of an ordinary lamp, electrons move within the filament and the electrical energy raises its temperature. According to the perspective of Saleh Theory, this phenomenon may be examined from the standpoint of the fundamental structure of the electron. According to this perspective, a number of electrons explode while passing through the tungsten filament of the lamp, and this explosion results in the release of photons. The emission of photons in this process may therefore be presented, within the framework of Saleh Theory, as an indication of a fundamental relationship between the electron and the photon and in line with the hypothesis that the photon is the fundamental particle constituting the universe; a subject examined in detail in earlier discussions by the Saleh Theory concerning the structure of the electron.

Conclusion

Examination of the twelve arguments presented shows that the photon holds an important position in the description of a wide spectrum of physical phenomena, from the properties of particles and the transfer of energy to the activity of stars and the evolution of the universe. This collection of arguments provides a basis for examining the relationship among the photon, matter and the fundamental structure of the universe.

The perspective advanced in Saleh Theory, beyond the recognised role of the photon in the transfer of energy, emphasises the possibility of its being fundamental in the structure of matter. On this basis, the photon is not only present in many natural processes but is also proposed in this theory as the fundamental particle constituting the universe. The twelve arguments of this paper bring together the various dimensions of this perspective in the form of a collection of physical and cosmological arguments.



References:

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