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A Non-standard Atomic Model from Bridge Electromagnetic Theory: Reinterpreting Electromagnetic Interactions

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DESCRIPTION

In recent years, the exploration of non-standard atomic models has gained traction, especially in the context of alternative theories of electromagnetism and their ability to provide novel insights into atomic structure. One such approach involves the development of a non-standard atomic model based on the principles of Bridge Electromagnetic Theory (BET), a lesser-known but emerging framework that proposes a reinterpretation of electromagnetic interactions at a fundamental level. Unlike the traditional quantum mechanical approach, which treats atomic structure through wave functions and probabilities, the Bridge Electromagnetic Theory offers a more holistic view of atomic interactions, emphasizing the role of electromagnetic fields in shaping the properties of matter. At its core, BET postulates that electromagnetic fields are not merely passive mediators of interactions between charged particles, but are active participants in the very structure of matter. In the standard atomic model, electrons are typically envisioned as orbiting a central nucleus, with their behavior governed by quantum mechanical principles. In contrast, the Bridge Electromagnetic Theory introduces a new perspective in which the electromagnetic field is seen as an interconnected medium that links particles and their respective energy states in a dynamic, non-localized manner. This model suggests that atoms do not merely exist as isolated entities but are part of a larger, unified field that bridges the gap between the microscopic world of subatomic particles and the macroscopic world we experience. One of the central tenets of BET is the idea that electromagnetic fields can "bridge" or connect particles in a way that extends beyond the traditional Coulomb force. Rather than treating the electromagnetic field as a static entity influencing particles from a distance, BET posits that the field is a more fluid and adaptive force that responds to the changing conditions within an atom and the surrounding environment. This framework introduces the concept of "bridging interactions," where the electromagnetic field directly links the motion and behavior of particles in a continuous and non-linear fashion. These bridging interactions are not confined to simple attraction or repulsion between charged particles but are dynamic processes that allow for the transfer of energy and information across different scales. In the context of atomic structure, this non-standard model challenges the conventional understanding of electron orbits and the distribution of charge. In traditional quantum mechanics, the electron's position and momentum are described probabilistically, with the famous Heisenberg uncertainty principle providing a limit to the precision with which these quantities can be known simultaneously. However, in the Bridge Electromagnetic Theory, the motion of electrons is more intricately tied to the electromagnetic field, with the field influencing both the spatial arrangement and energy levels of the atomic constituents in a continuous manner. The result is a model in which the electrons do not simply occupy discrete energy levels but rather participate in a continuous exchange of energy with the electromagnetic medium. This continuous interaction leads to a more fluid, less particle-centric conception of atomic structure. The implications of such a model extend far beyond atomic physics. In particular, the Bridge Electromagnetic Theory offers new perspectives on electromagnetic radiation and the behavior of light. While Quantum Electrodynamics (QED) traditionally describes photons as discrete particles that mediate electromagnetic interactions, BET suggests that light itself is a manifestation of the continuous bridging of electromagnetic fields across different scales. In this view, photons are not separate particles traveling through space but rather waves in the field that connects all charged particles.

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CONFLICT OF INTEREST

The author declares there is no conflict of interest in publishing this article.

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