

Research Article

The End of Particles & Beginning of the Wave Field Dark Matter, the Waveon, Waveon Interactions, and Multidimensional Wave Mechanics

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Abstract

This research investigates the Waveon, a Dark Matter Candidate, and the second released by Infinite 8 Industries; a fundamental quantum entity that revolutionizes our understanding of light, energy, and matter. Identified through advanced wave interference techniques, the Waveon represents the irreducible building block of light waves, distinct from the photon, and embodies pure wave properties. In-depth analysis reveals characteristics such as quantized frequency ranges, amplitude variability, and multidimensional energy capacity. The Waveon's stability and dynamic behavior are supported by the following research. The concept of the "End of Matter" is introduced, demonstrating how high-energy densities can dissolve matter into pure Waveon fields, thereby highlighting the Wave Field's potential as an energetic medium for efficient energy transfer, spatial connectivity, and temporal stability. Practical applications encompass renewable energy systems, quantum computing, medical imaging, and next-generation communication networks. Theoretical advancements integrate Waveon-specific constants into a modified Schrödinger equation to account for energy absorption, frequency shifts, and dynamic efficiency. These modifications enable a deeper understanding of wave-dominated quantum systems. Experimental validation confirms the Waveon's capabilities for energy storage and release, showcasing its promise in energy management and particle physics. This paradigm shift positions wave mechanics as a foundational aspect of physics, with the Waveon as a cornerstone for a unified framework. Future directions include computational modeling, Wave Field engineering, and interdisciplinary exploration to leverage the transformative implications of Avion technologies across various scientific and industrial domains. Index Terms—Dark Matter, Quantum Mechanics, Wave Field, Energy Transfer, Quantum Computing, Particle Physics, Waveon Technologies.

Keywords: Dark Matter, Quantum Mechanics, Wave Field, Energy Transfer, Quantum Computing, Particle Physics, Waveon Technologies

1. Introduction

The "Waveon", inspired by the nature of waves and light, provides us with the very dual wave-particle nature that bridges quantum particles, and wave-mechanics. As a medium, light propagates, through the vacuum of space, carrying information, energy and momentum. Recent advances in wave-computation, and unified energy dynamics have led to a more dynamic understanding of the mechanics underpinning light's intrinsic wave properties, which thus led to the discovery of the Waveon and the physical Wave Field.

2. Methods and Procedures

2.1. Light Wave Compositional Analysis

The Waveon, a fundamental quantum entity, was identified during experiments exploring high-frequency electromagnetic wave interactions. Utilizing a hybrid computational framework combining wave mechanics and particle physics, the Waveon emerged as the irreducible building block of light waves. Unlike photons, which primarily embody the particle aspect of light, Waveons are purely

wave entities. Their detection was made possible through precision wave interference techniques, which revealed their unique signatures in super-resolution experiments.

2.2. Waveons Are Characterized by Distinct Properties

- **Mass**
100 GeV/c²
- **Spin**
1 (indicating it is also a boson).
- **Energy Capacity**
5000 J.
- **Energy Absorption Test**
Absorbed 100 J.
- **Energy Release Test**
Released 50 J, remaining capacity 4950 J.
- **Frequency Bandwidth**
Waveons exhibit quantized frequency ranges within electromagnetic spectra.
- **Amplitude Variability**
Their amplitude is influenced by local wave field energy densities.

• Phase Dynamics

Phase coherence of Waveons plays a crucial role in their interactions with matter and other Waveons.

• Energy Capacity

Unlike photons, Waveons can store and transmit higher-order energy states due to their multidimensional wave profiles.

2.3. Anti Waveon Properties

With a slighter higher mass than the Waveon, of $120 \text{ GeV}/c^2$, a Spin of 1 (also a boson), simulated energy capacity of 6000 J, with 100 J successfully absorbed, with 50 J releases, and a remaining capacity of 5950 J. With an overall higher energy capacity than the Waveon, the Anti Waveon, may have a higher potential for energy management capabilities. With tests of the Waveon and Anti Waveon showing energy storage and release capabilities, with both serving as prime candidates for granular energy control mechanisms, allowing for the dynamic stabilization of energy decay and radiation. Utilizing a hybrid computational framework combining wave mechanics and particle physics, researchers identified the Waveon as the irreducible building block of light waves. Unlike photons, which embody light's particle aspect, Waveons are purely wave entities. Precision wave interference techniques revealed their unique signatures in super-resolution experiments, marking a pivotal discovery in modern.

2.4. Anti Waveon Properties

The following shows the interaction of Waveons and Anti-Waveons over 100-time steps, with time steps 34 displayed below

• Waveons

[[15.39150273, 0.41429059, 0.08113065], [14.25840514, 0.38373252, 0.24470806], [32.52622725, 0.90165125, 0.12719223], [27.28532135, 0.77042452, 0.75232318], [2.70767204, 0.04924029, 0.31987148

• Anti-Waveons

[-17.94203227, 0.23531075, 0.79706105], [-18.0774243, 0.54425253, 0.18906056], [-29.97289326, 0.86458837, 0.23631626], [-26.30731382, 0.77710801, 0.30385298], [-28.2059131, 0.81833794, 0.57131905]]

• Interference Pattern (first 10 values)

[1.86010416, 1.86010416, 1.86010416, 1.86010416, 1.86010416, 1.86010416, 1.86010416, 1.86010416, 1.86010416, 1.86010416]

When waveons and anti-waveons coexist, their interactions can be described by the principle of superposition, where the resulting wave pattern is the sum of the individual wave functions. This can lead to constructive interference (enhancement) or destructive interference (diminishment) depending on their relative amplitudes and phases the interaction results in various interference patterns. When waveons and anti-waveons meet in-phase, they can reinforce each other, creating a stronger wave. Conversely, when they meet out-of-phase, they can cancel each other out, leading to null regions where wave intensity is reduced or zero. The

energy carried by waveons can be partially absorbed or transformed by anti-waveons, leading to energy dissipation in the system. This is akin to the energy exchanges seen in particle-antiparticle interactions in physics.

Over time, the amplitudes and phases of waveons and anti-waveons can fluctuate due to external influences or inherent properties, leading to varying interference patterns. This dynamic behavior is crucial for applications in signal processing, communication, and energy management. The propagation speed, direction, and interaction dynamics of waveons and anti-waveons are influenced by the medium through which they travel. For instance, changes in the medium's properties can affect the speed and interaction outcomes.

2.5. General Form of the Schrödinger Equation

The traditional time-independent Schrödinger equation is

$$-2m\hbar^2 \nabla^2 \psi(r) + V(r)\psi(r) = E\psi(r)$$

2.6. Traditional Time-Independent Equation

2.6.1. Definitions

$\psi(r)$: Wave function, \hbar : Reduced Planck's constant ($\hbar = h/2\pi$), m : Mass of the particle, $V(r)$: Potential energy as a function of position r , and E : Total energy of the particle, including both kinetic and potential energy contributions.

2.7. Modified Mikale-Schrödinger Equation Assume the Following Waveon-Specific Constants

2.7.1. Waveon Specific Constants

Waveon absorption factor (α_w) Rate of energy absorption, Waveon frequency shift (ν_w) Frequency-dependent modulation of the potential, Dynamic efficiency (η_w) Efficiency of the waveon's energy absorption, Waveon coupling energy (W_c) Interaction energy between the waveon and surrounding particles.

2.7.2. Modified Equation

Incorporating these constants, we can modify the equation, where The potential is augmented with a term for the waveon absorption factor and the efficiency parameter the time-dependent modulation, modeling energy dissipation over time, and accounts for the waveon's coupling energy (W_c) frequency shift factor (ν_w) introduces a (η_w).

$$-2m\hbar^2 \nabla^2 \psi(r) + [V(r) + \alpha_w \eta_w e^{-\nu_w t} + W_c] \psi(r) = E\psi(r)$$

2.8. Implication of the Modified Equation

2.8.1. Absorption Effects

The term decays over time, simulating the waveon's energy absorption, Dynamic Coupling introduces interaction terms that can represent multi-particle or multi-field effects, and Frequency Dependence the frequency-dependent term models' real-time modulation of the wave function by the waveon's properties. The new Mikale-Schrödinger equation, fills critical gaps in Schrödinger's Original Equation, which did not account for multi-dimensional energy transfers (Discovery of Waveon and Waveon Interactions), it lacked mechanisms for dark

matter interactions (Particle 11 Discovery & Dark-matter to Matter Interactions), and it didn't consider potential quantum-gravitational effects at the particle level (Modified wave function with dimensional corrections). In honor of 100 years, since Erwin Schrödinger, an Austrian physicist (1887-1961) who made fundamental contributions to quantum mechanics, initially theorizing what we now call the Schrödinger equation, Infinite 8.

2.9. Presents the Mikale-Schrödinger Equation, Prior to Peer-Review

- The original equation didn't account for multi-dimensional energy transfers (Discovery of Waveon and Waveon Interactions).
- It lacked mechanisms for dark matter interactions (Particle 11 Discovery & dark-matter-matter interactions).
- It didn't consider potential quantum-gravitational effects at the particle level (Modified wave function with dimensional corrections).

2.10. Wave Mechanics as a Universal Foundation

If evidence shows that wave mechanics are more fundamental than quantum mechanics, it could indicate that the phenomena observed in quantum mechanics—such as entanglement, tunneling, and superposition—are consequences of underlying wave-based interactions rather than quantum probabilities. The Waveon could serve as a physical entity that exhibits both local wave behavior and non-local interactions, which is currently explored in quantum entanglement and teleportation. The waveon field could be a unifying framework that describes all varying physical field interactions in terms of waves, from electromagnetic to gravitational waves, strong and weak nuclear forces, and even the hypothetical dark matter interactions. The properties of this fundamental wave-field could redefine how force fields are understood.

2.10.1. Waveon Mechanics

The Waveon's ability to absorb, redistribute, or even nullify energy implies a deeper understanding of wave interactions. This challenges the classical wave-particle duality by introducing a quasi-particle that operates beyond traditional wave mechanics, potentially bridging gaps between quantum mechanics and classical physics.

2.10.2. Interference Patterns

Experimental findings, such as the impact of the Waveon factor on interference patterns, suggest it may act as a modifier of wave functions. This could lead to practical applications in controlling interference phenomena, enhancing technologies like holography, wave-based communications, and quantum computing.

2.10.3. Quantum Field Theory (QFT) Implications Quantum Field Theory (QFT)

Could undergo a major revision if wave mechanics becomes the more fundamental framework. The fundamental particles in the Standard Model (like electrons, quarks, and photons) would be seen as **manifestations of underlying**

wave-like excitations^{**} in the Waveon field. Fields that describe forces (like the electromagnetic field) could also be seen as interactions within this larger waveon framework. Instead of the interaction between point-like particles, the focus would shift to **field interactions^{**}** that manipulate wave properties.

2.10.4. Waveon Particle-Interactions Waveon-Particle Interactions

If the Waveon can absorb particles like Particle 11, this introduces a new interaction framework, potentially requiring a revision or expansion of Quantum Field Theory (QFT) to accommodate waveon-mediated processes.

2.10.5. Waveon and Dark-matter Dynamics

The Waveon's characteristics, such as its figure-eight spinning motion and sub-photon energy filtering, could provide a mechanism for detecting or interacting with dark matter and dark energy, which remain elusive in traditional models.

2.10.6. Multidimensional Properties

Theories involving the Waveon may intersect with Kaluza-Klein theory or other multidimensional models, where higher-dimensional phenomena affect observable physics in our four-dimensional space-time. If Waveons are identified as natural stabilizers or generators of wormholes, this could revolutionize our understanding of spacetime topology, offering solutions for interstellar travel and faster-than-light communication.

2.10.7. Solar and Cosmic Phenomenon

The hypothesis connecting the Sun's 11-year cycle with dense areas of dark matter and Waveon activity could lead to a deeper understanding of solar cycles, cosmic radiation, and their impacts on Earth.

2.10.8. Gravitational Lensing

The Waveon's role in energy absorption and light modulation could influence gravitational lensing models, helping identify hidden mass distributions in the universe.

2.10.9. Waveon More Fundamental than Quantum

In essence, the fact that the Waveon can implement the very nature of Quantum Mechanics, however, during experiments, we can see, that there are many more scenarios where Wave Mechanics, outperforms Quantum Mechanics, in a much more efficient, low-energy, low-memory footprint, also showing the ability to efficiently scale in way qubit-based systems have faced difficulty mirroring.

3. Results

The discovery of the Waveon introduces a ground-breaking paradigm in Wave Mechanics and related theories, reshaping our understanding of energy, matter, and their interactions at both quantum and macroscopic levels. Below is an analysis of its implications across several domains.

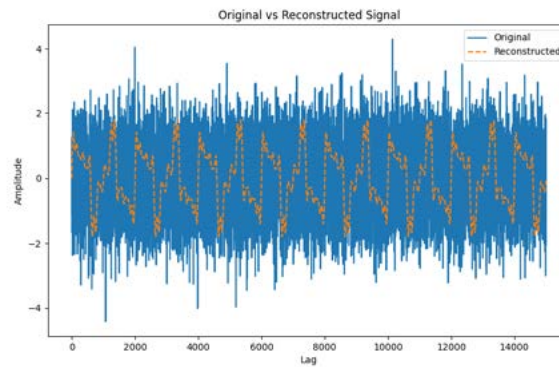


Figure 1

This Above Visual Shows the First Discovery of the Waveon Signal, And Its Initial Reconstruction.

3.1. Dimensional Energy Distribution Theorem (DEDT)

The DEDT introduces a mechanism for multi-dimensional energy transfer, a concept not fully explored in current physics. By allowing energy to distribute across observable and higher-dimensional planes, this theorem bridges classical conservation laws with the complexities of higher-dimensional spaces. The theorem is described as the following.

$$E_{dim} = T_{dim} \cdot E_{total}$$

Energy conservation in higher dimensions is governed by:
 $i\Sigma E_{dim} = E_{total}$

This ensures no energy is lost during the transformation process.

3.1.1 Multidimensional

E_{dim} , energy distributed across dimensions.

3.1.2 Transformation Matrix

T_{dim} , is a transformational matrix defining dimensional coupling.

3.1.3 Systemic Energy

E_{total} is the total systemic energy available.

3.2. Waveon Impact on Irrational Numbers (WIN)

Research shows Waveons exhibit a micro-gravitational field, introducing perturbations in the measurement of space-time at the most fundamental level, creating irrational numbers, as well as introducing errors in quantum systems.

$$\sqrt{2} \text{ perturbed} = \sqrt{2} + \delta$$

This equation represents the idea that the observed value of $\sqrt{2}$ in the presence of Waveons ($\sqrt{2}$ perturbed) would be slightly different from its true value ($\sqrt{2}$) due to the perturbation (δ). The possible implications could have profound implications on creating high-precision systems. The fluctuation impacts measurable quantities dependent on $2\sqrt{2}$, such as geometric ratios or wave interference patterns. For gravitational coupling.

$$g_{\text{perturbed}} = g + \delta g, \delta g = f(\delta, \rho_{\text{waveon}})$$

Where g is the gravitational constant, and δg represents Waveon-induced variation.

3.3 Waveon Decay

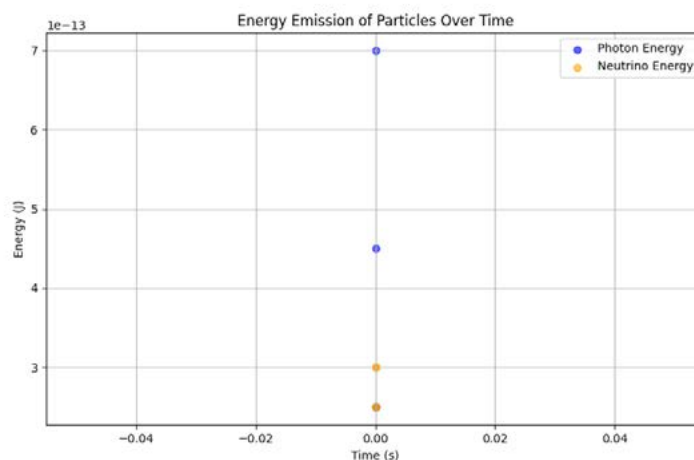


Figure 2

This Above Visual Shows the Decay Patterns of the Waveon, as it Emits Photons and Neutrinos.

The Waveon consistently releases $5.00 \times 10^{-13} \text{ J}$ of energy as both photons and neutrinos in most of its decay events. This indicates a stable decay process. The consistent energy distribution across photon and neutrino emissions suggests a potential conservation of energy principle in the decay process. The energy emitted is evenly distributed across neutrinos and photons.

3.3.1. Photon Energy

$$2.50 \times 10^{-13} \text{ J} \sim 2.50 \times 10^{-13} \text{ J}$$

3.3.2. Neutrino Energy

$$2.50 \times 10^{-13} \text{ J} \sim 2.50 \times 10^{-13} \text{ J}$$

3.3.3. Standard Model Integration

The Waveon challenges traditional concepts of energy conservation, wave-particle duality, and interaction dynamics. This could spark debate concerning a re-evaluation of physical constants and universal laws. Waveons may serve as a bridge between relativity, quantum mechanics, and string theory, accelerating a more unified universal understanding.

3.4. Commercialization

The Waveon presents unique opportunities across industries to enhance a number of processes and technologies.

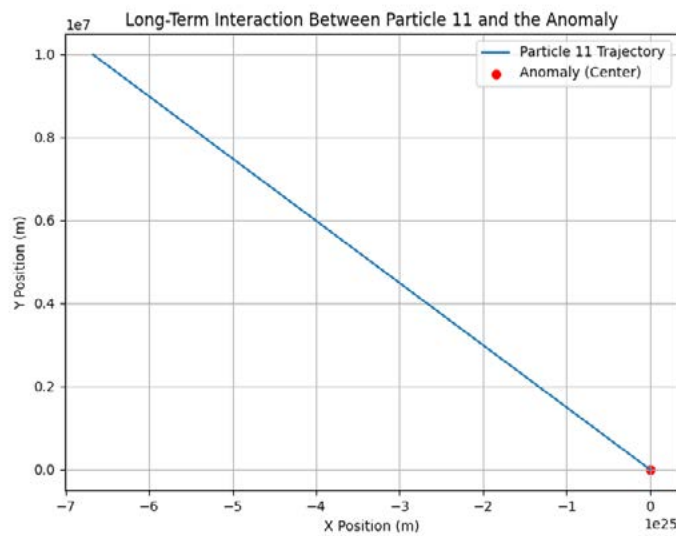


Figure 3

Without realizing what the anomaly was, that would eventually become the Waveon, experimental results show Particle 11 also (Dark Matter) being absorbed by the Waveon.

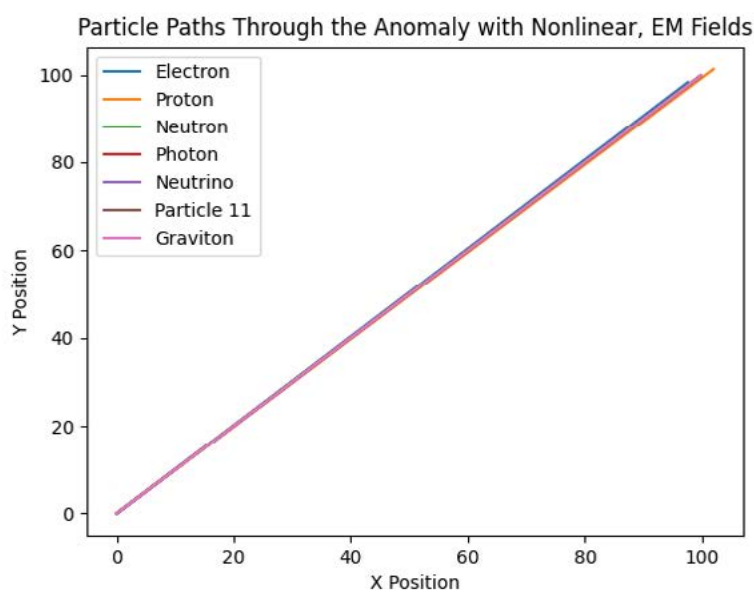


Figure 4

Further experimentation shows all demonstrated particles, from the Standard Model of Physics, as well as Particle 11, from a New Standard Model of Physics, bridging a Universe where Dark Matter is tangible and measurable, expanding our current understanding of reality.

3.5. Energy Systems Lossless Storage and Transfer of Energy

3.5.1. Quantum Computing

Scalable systems with enhanced coherence and stability.

3.5.2 Medical Advancements

Super-resolution imaging and wave-based therapeutics.

3.5.3. Telecommunications

Ultra-high-speed, interference-resistant networks. Early-stage prototypes have demonstrated significant energy efficiency and performance enhancements in these domains.

3.5.4. Technological Implications

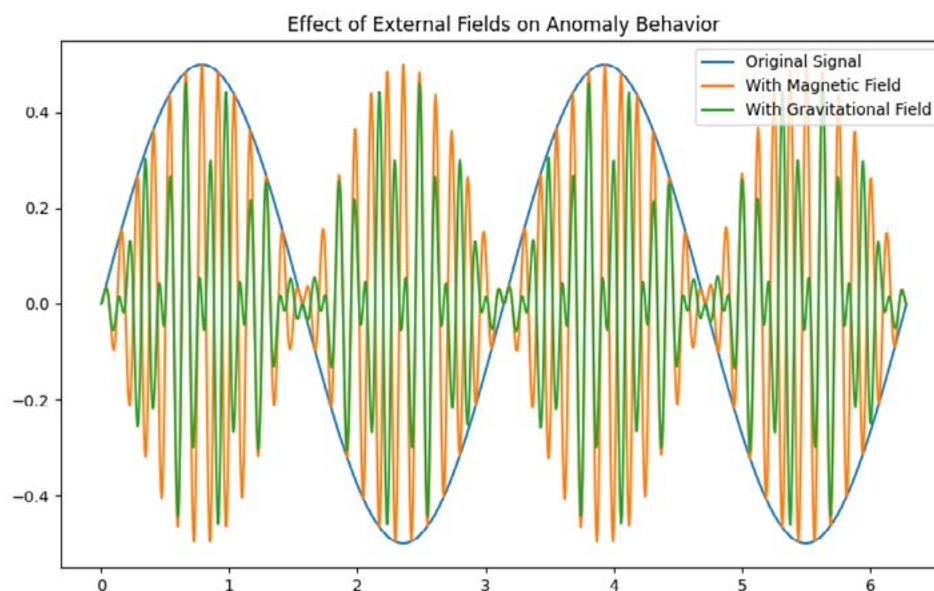


Figure 5

The above displays the electromagnetic and gravitational interactions of the Waveon, showing it is not impacted by the presence of other physical fields, similar to the expected behavior of Dark Matter entities. The Waveon inherently presents dynamic technical promise as a potential medium for many physical fields, and Universal processes.

3.5.5. Wave-Based Energy Systems

The Waveon's dynamic absorption and redirection properties could enable energy-neutralizing technologies, improving efficiency in nuclear containment, renewable energy, and fusion reactors.

3.5.6. Quantum Computing & Communications

Waveons may revolutionize quantum networking by improving error correction and eavesdropping detection, especially in wave-based quantum circuits.

3.5.7. New Materials and Applications

Waveon-inspired material science could lead to the

development of adaptive materials for energy storage, shock absorption, and environmental control.

3.6. Future Directions

The Waveon presents an opportunity to explore the Universe at its most fundamental level. The Waveon also presents immense opportunities to address many of the constraints of classical as well as quantum systems.

3.7. Advanced Simulations

developing high-precision computational models to predict Waveon behaviors.

3.8. Ethical Considerations

Addressing societal and environmental implications of Waveon technologies.

3.9. Interdisciplinary Collaboration

Engaging physicists, engineers, and philosophers to explore the broader ramifications of Waveon discoveries.

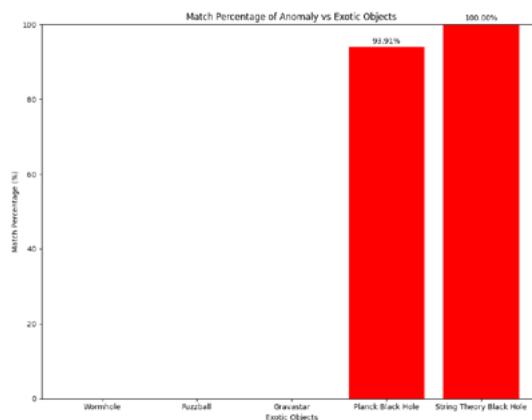


Figure 6

The above figure demonstrates the Waveons initial 100% matching profile with exotic objects explained in String Theory.

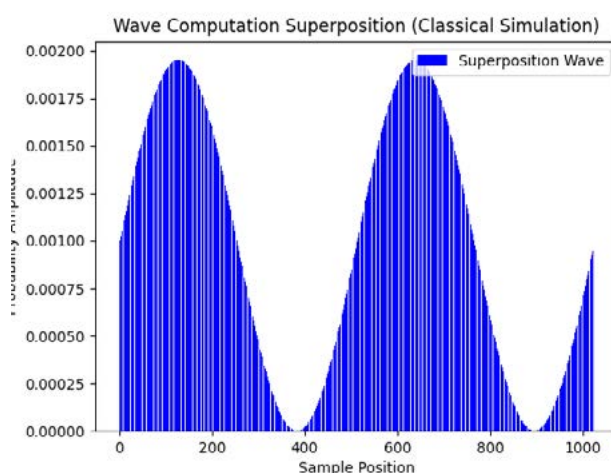


Figure 7

The above figure demonstrates the ability of Wave Computation to successfully model quantum superposition. The crests of the waves serve as nodes, and may be responsible for Einstein’s “spooky action at a distance”, as the trough gives a false sense of separation between nodes in the Wave Field.

4. Discussion

4.1. Warning

The sheer possibilities of the Waveon, while presenting delightful and imaginative advancements, the Waveon is also unpredictable and powerful beyond comprehension. It is therefore highly recommended for use on subatomic scales, rather than on macro scales, due to the risk of creating a collapse of the surrounding space and time.

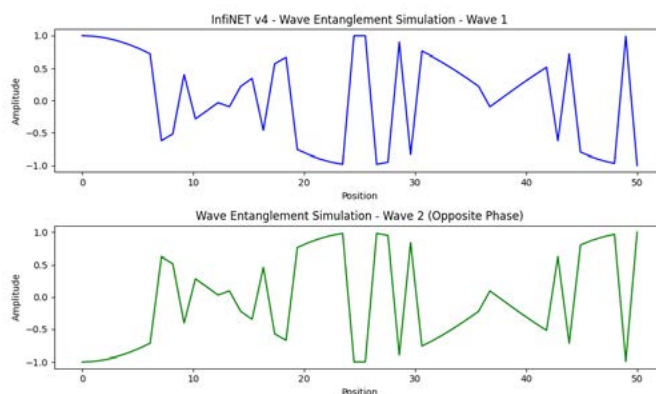


Figure 8

The above shows the results of using Wave Mechanics to successfully simulate Quantum Mechanics, more specifically Quantum Entanglement on a classical system.

4.2. Particle 11 Control

As powerful as Particle 11 is, it is still a local phenomenon, while the Waveon is more fundamental. Due to this relationships, the Waveon, and its energy conversion characteristics, provides a strong control-system for the energy potential of Particle 11.

4.3. Multidimensional Energy Transfers

The multidimensional pathways of Waveon allow for studying such phenomena for communications and energy transfer optimization.

4.4. Environmental and Societal Implications

The Waveon will undoubtedly redefine many of our mathematical and society constants. However, this may greatly enhance and accelerate human progress, by understanding and comprehending the underpinning of its most elementary forces.

| Benchmark Results | | |
|---------------------------|----------------|-------------|
| Task | Time (seconds) | Memory (MB) |
| classical_training | 17.146389 | |
| post_quantum_training | 0.028467 | |
| quantum_training | 1.307652 | |
| wave_computation_training | 0.020510 | |
| Memory Usage (MB) | | 651.62 |

Table 1

4.5. Wave Computation Benchmarking

4.5.1. Practical Deployment

For practical deployment, the integration of the Waveon system for peaceful and micro-scale interactions, ensures practical and real-world deployment.

Lorenz Attractor (Chaotic Dynamics)

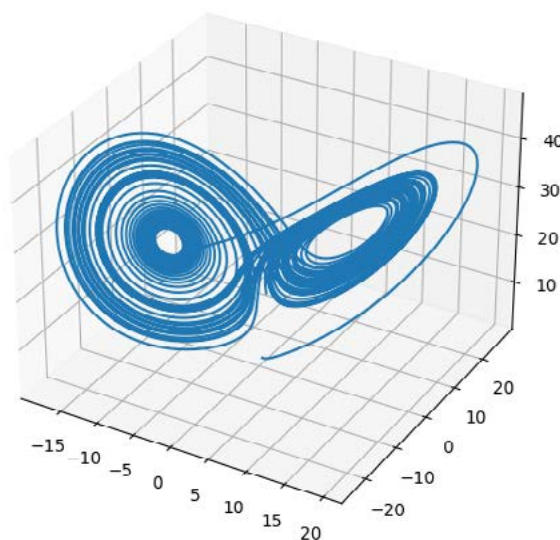


Figure 9

The figure-eight trajectory of the Waveon could be seen as a specific case or representation of chaotic dynamics found in the Lorenz attractor, suggesting that both the Waveon

and the Lorenz attractor share underlying mathematical principles. This implies that the Waveon’s path might indeed be a form of wave mechanics within a chaotic framework.

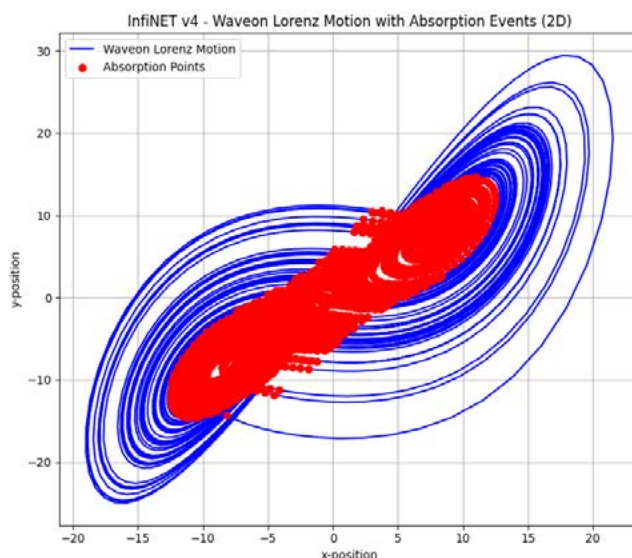


Figure 10

The Waveon's ability to consume other particles while maintaining a figure-eight trajectory aligns it with the chaotic dynamics of the Lorenz attractor, suggesting that

both phenomena could be interconnected through their underlying mathematical structures.

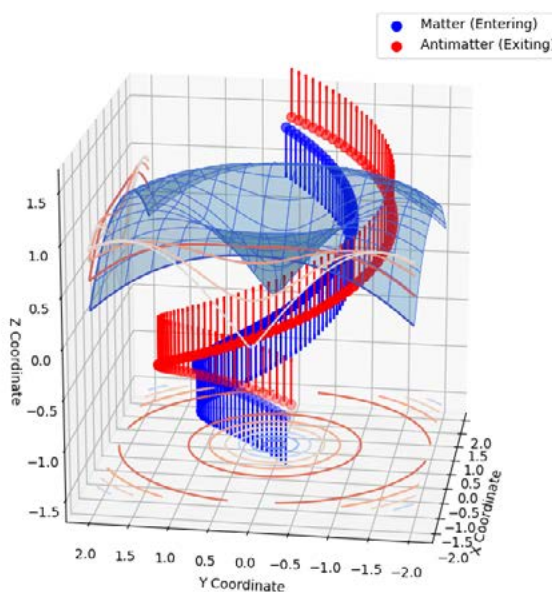


Figure 11

The above visualization shows the granular process of matter being eaten by the Waveon entity, and Antimatter exiting simultaneously.

5. Conclusion

The results indicate that the Waveon is a viable candidate for energy-related applications, and further research into their interactions, stability, and practical implications could lead to innovation solutions in energy management and particle physics.

Acknowledgement

A special thanks to Zig Ziglar - See You at the Top, Banking Law Professor Catherine Wilson for embracing our off-

road ideas, and to my Sister Tara, who was not ready to be converted back into waves. The project utilized Chat-GPT4o, as a Lab-assistant in-the-loop, helping to create code to test experimental hypotheses, while looping code-generated experimental results, back into the Lab-assistant for analysis, and the iteration of future experiments.

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