Luis M. Minier

A Hybrid Computational Framework for Quantum and Resonance Simulation

Abstract of the disclosure

A hybrid computational framework is disclosed that integrates symbolic logic, geometric data encoding, and resonance-based transformations for high-fidelity simulation, encryption, and data management. The system introduces a Symbolic Resonance Fourier Transform (RFT) that preserves phase coherence and topological invariants while operating in a symbolic amplitude domain. A resonance-based cryptographic subsystem generates dynamic waveform-based keys using symbolic phase modulation and topological waveform hashing, providing quantum-resilient encryption. Additionally, a geometric data storage framework encodes symbolic amplitudes within tetrahedral and higher-order topologies, enabling fault-tolerant, nonbinary, and parallel-access memory architectures. These components operate cohesively within a modular, resonance-aware architecture designed for continuous-state symbolic computing. The invention functions without reliance on qubits or neural networks, offering an accessible platform for advanced simulation, secure computation, and symbolic data systems. The framework supports applications in quantum modeling, encryption, symbolic AI, and geometric memory, marking a paradigm shift beyond classical and quantum architectures.