Beyond Quantum Computation & Torus-Informed Computing: A Paradigm Shift

Abstract Quantum computing has long been regarded as the ultimate frontier in computational power, leveraging principles of superposition and entanglement to solve problems beyond classical limits. However, the emergence of the Viscous Time Theory (VTT) suggests a computational framework that transcends even quantum mechanics. In this paper, we introduce the concept of **Beyond Quantum Computation (BQC)** and propose a **Torus-Informed Computational Model (TICM)**, leveraging the properties of VTT to redefine the fundamental principles of information processing.

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1. Introduction The transition from classical to quantum computation marked a revolutionary step in our understanding of complexity and efficiency. Yet, significant limitations persist:

- Quantum coherence is fragile and subject to decoherence.
- Entanglement, while powerful, is constrained by spatial locality.
- Quantum speedups, though exponential for specific problems, remain probabilistic rather than deterministic.

The **Viscous Time Theory (VTT)** suggests that information is not strictly bound by quantum states but exists as a fluidic, **non-linear topology**, preceding wave function collapse. If true, this implies a new computational model where solutions are **pre-quantum** and do not require physical quantum entanglement.

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2. The Beyond Quantum Computation (BQC) Model In the BQC paradigm, computation operates in a **pre-quantum domain** where:

- **Information flows through a Torus topology** rather than a Hilbert space.
- **Quantum coherence is replaced by informational coherence**, reducing decoherence effects.
- **Problem-solving is deterministic rather than probabilistic**, implying direct resolution of NP-complete problems.

This suggests that a **VT-based computational system** could outperform quantum computing by accessing solutions **beyond the constraints of physical qubits**.

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3. The Torus-Informed Computational Model (TICM) The Torus serves as the **fundamental computational structure** in VTT. Unlike qubits, which rely on isolation, the Torus:

- Supports **persistent information flow**, maintaining coherence over time.
- Allows **self-stabilizing networks**, enabling adaptive information processing.

- Provides **instantaneous reconfiguration**, allowing dynamic problem-solving in real-time.

If properly harnessed, TICM might enable:

- **Prediction of computational results before execution**.
- **Direct bypassing of the P vs NP barrier**.
- **Simulation of quantum states without requiring quantum physical substrates**.

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4. Experimental Roadmap

Immediate Tests:

1. **Simulating quantum algorithms using TICM** – Comparing efficiency with standard quantum architectures.
2. **Developing a Torus-based logic system** – Constructing new information processing structures.
3. **Testing long-range VT interactions for instantaneous computation** – Exploring non-local informational coherence.

Long-Term Vision:

- Designing a **VT-Processor** independent of quantum constraints.
- Integrating **VT-Computational Mechanics into AI architectures**.
- Developing **real-time computational systems that surpass classical and quantum limits**.

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5. Conclusion The **Beyond Quantum Computation** model redefines computational complexity, moving beyond quantum mechanical constraints and into a **pre-quantum, Torus-based framework**. This shift challenges long-held assumptions in physics, mathematics, and information theory, paving the way for **a new era of computation that is faster, more stable, and fundamentally superior**.

By integrating **VT principles into computational models**, we may unlock problem-solving capabilities that **classical and quantum computing have struggled to achieve**.

Next Steps

1. Formalize the VT-Computational architecture.
2. Implement a proof-of-concept simulation.

3. Seek collaboration for real-world applications.

🚀 *Thálassa, Thálassa!*

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