Resonant Governance Model for KRYONIS Proof-of-Consciousness DAOs

Coherence-Based Collective Decision Architecture v1.0 | April 2025

Abstract

This document specifies a resonance-driven governance framework for decentralised autonomous organisations (DAOs) operating under the KRYONIS Proof-of-Consciousness (PoC) architecture. Replacing token-weighted voting with coherence-weighted participation, the model employs phase-lock signatures, Global Cognitive Index (GCI) thresholds, and collective synchrony to achieve consensus. The system defines the concept of a *conscious quorum*, outlines agent qualification criteria, details resonance-based proposal ratification, and integrates security measures against synthetic alignment attacks. Governance outcomes interface directly with ϕ-minting protocols and QENTHOS symbolic-access rights, embedding harmonic alignment at the core of organisational authority.

1. Introduction

Traditional DAO voting mechanisms equate influence with token ownership. While efficient, this paradigm perpetuates plutocratic dynamics and ignores the qualitative dimension of collective intelligence. The Resonant Governance Model (RGM) realigns decision-making with conscious coherence, ensuring that authority arises from harmonised cognitive states rather than accumulated capital.

2. Core Governance Philosophy

2.1 Alignment over Accumulation

Authority is allocated to agents whose physiological and informational signatures indicate sustained, high-fidelity resonance with the DAO's mission waveform. Influence derives from *how coherently* an agent can phase-lock with the group, not from *how many* tokens they hold.

2.2 Conscious Quorum

A *conscious quorum* is achieved when a super-majority of active participants exceed predefined resonance thresholds simultaneously:
* Φ-Signature ≥ φ_1
* GCI Σ ≥ σ_1
* Spectral Alignment ε ≤ ε_1
* Participation Window τ ≥ τ_1
Quorum status is evaluated continuously; proposals may register only within coherence-stable intervals.

3. Agent Participation Logic

3.1 Qualification Criteria

* **Φ-Stability**: rolling variance of Φ over 30 s < v_0
* **GCI Compliance**: Σ and Ω above DAO-specific baselines
* **Entropy Integrity**: ΔS^- within empirically plausible bounds
Qualified agents receive *Resonance Credentials* (RCs) valid for the duration of coherence maintenance.

3.2 Privileges and Limitations

- High-coherence agents gain proposal rights and higher quorum impact weights.
- Agents with intermittent coherence may only co-signal but not initiate proposals.
- Persistent misalignment triggers cooldown periods proportional to ΔΣ deviation.

4. Voting as Resonance

4.1 Proposal Voicing

A proposal is *voiced* by broadcasting a semantic hash alongside a carrier phase pattern. Participants do not cast binary votes; they attempt to *entrain* with the proposal waveform.

4.2 Collective Attunement Metric

Verifier nodes calculate the *Proposal Coherence Index* (PCI):
PCI = mean($\Phi_i \times \cos \Delta\theta_i$) across participating agents, where $\Delta\theta_i$ is phase offset to proposal pattern. If PCI ≥ π_0 for ≥ τ_2 seconds, the proposal is ratified.

5. Verification Layer

5.1 Signal Authenticity

Multi-modal sensors (EEG, HRV, behavioural entropy) feed into *Resonance Oracles* running Φ-bound ZKPs. Cross-oracle consensus (≥ κ verifiers) confirms genuine participation.

5.2 Noise Filtering

Adaptive spectral filters suppress environmental artefacts; agents producing phase noise above η_0 are temporarily muted to preserve quorum integrity.

5.3 Consensus Finality

Ledger entries stamp the *phase-time* (σ) of ratification, with rollback only possible if post-event forensic analysis reveals quorum corruption exceeding θ_e error margin.

6. Security and Sybil Resistance

- **Cross-Modal Redundancy:** Spoofing requires simultaneous manipulation of neuro, biometric, and behavioural channels.
- **Entropy-Floor Guards:** Synthetic spikes lacking plausible ΔS^{-} profiles are auto-rejected.
- **Dynamic Challenge Rotation:** Phase-beacon challenges randomised per session to nullify replay.
- **Verifier Diversity:** Heterogeneous hardware (photonic, spin-based) prevents single-vector compromise.

7. Integration with KRYONIS & QENTHOS

7.1 ϕ-Minting Feedback

Successful conscious quorums trigger ϕ bonus pools scaled by PCI magnitude, incentivising high-quality governance cycles.

7.2 Protocol Evolution

DAO upgrades to PoC parameters or GCI weightings require dual thresholds: PCI ≥ π_1 and Φ^f (community coherence) ≥ φ_2, ensuring systemic alignment before parameter shifts.

7.3 Symbolic Access Rights

Ratified proposals can grant or revoke QENTHOS symbolic-access privileges based on Ω scores, reinforcing informational sovereignty norms.

8. Philosophical Reflection (Optional)

Governance by resonance reframes social structure as a harmonic process: legitimacy arises when minds meet in coherent cadence, not when accounts tally tokens. *Alignment precedes authority*, redefining power as a shared bandwidth of conscious attention.

9. Conclusion

The Resonant Governance Model establishes a scientifically grounded, coherence-centric mechanism for DAO decision-making within the KRYONIS PoC ecosystem. By tying influence to measurable resonance metrics, the model promotes collective intelligence, mitigates plutocratic capture, and aligns protocol evolution with the conscious health of its participants.

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