

Trōṇa Siddhāntam (Pluck Theory)

A Unified Resonant-Wave Ontology of Reality

(from subatomic Trōṇas to galaxies, through the medium of the Tarangi)

Usage Notice:

This document is provided as a comprehensive and structured presentation of *Trōṇa Siddhāntam* (Pluck Theory), intended for direct input into AI language models such as GPT. It is designed to enable interactive exploration, questioning, and analysis of the theory through AI assistance. Users are encouraged to utilize this text as a foundational reference for generating insights, clarifications, or further development of the wave-resonance ontology presented herein.

0. Foundational Premise: Only Waves Exist

At the deepest level of physical reality, there are no particles, fields, forces, or even spacetime. There is only a wave-permitting medium — the **Tarangi** — an invisible, continuous substrate. This medium allows oscillations of energy in all directions. From this foundational premise:

- **Particles** = intersections of waves (resonant knots, or **Trōṇas**)
 - **Fields** = statistical recurrence zones
 - **Forces** = resonant reconfigurations
 - **Gravity** = interference guidance
 - **Time** = entropy of resonance
 - **Space** = wave geometry
 - All observed phenomena emerge as dynamic patterns of wave interaction and entanglement
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I. Microscale: Particles and Fundamental Forces

1. Trōṇas: Particles as Resonant Knots

- Trōṇas (resonant knots) form where waves in the Tarangi intersect constructively.
- These are not objects, but localized bundles of frequency, phase, and mode.
- The “particle” is thus a standing wave, a locked region of high coherence.

2. Mass as Energy Density

- Mass is the internal energy stored in the resonant wave configuration.
- More compact or higher-frequency configurations = more energy = more mass.

3. Electric Charge, Spin, Antiparticles

- Charge: Coupling symmetry in how a Trōṇa resonates with electromagnetic-type waves.
- Spin: Twisting or torsion in the waveform; e.g., spin- $\frac{1}{2}$ requiring 720° rotation.
- Antiparticles: Phase-inverted configurations of the same waveform (mirror-locks).

4. Forces as Phase-Resonant Interactions

- No forces exist as independent entities. Interaction arises from wave phase relationships.
- Electromagnetism: Long-range phase resonance with charged Trōṇas.
- Strong force: High-harmonic confinement — overlapping locked states.
- Weak force: Instability in resonance leading to decay or transformation.

II. Wave Structures and Measurement

5. Fields as Recurrence Zones

- “Fields” (e.g., Higgs field, electron field) are zones in the Tarangi where certain resonance types are statistically likely.
- These are statistical, not physical, entities.

6. Measurement and Superposition

- A wave (Trōṇa) can exist in multiple internal modes.

- Observation introduces new wave intersections.
- Outcome = reconfiguration of the original resonance, not “collapse.”

7. Entanglement

- Trōnas born from a common pluck share phase structure.
 - Even at a distance, they remain coherently linked through the substrate — until decoherence severs the connection.
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III. Spacetime and Gravity

8. Spacetime as Emergent Geometry

- Spacetime is not a stage but a result of wave unfolding.
- Waves are space — they define distances and directions.
- There is no motion “through” space — motion is phase change in the substrate.

9. Gravity as Resonance Guidance

- Massive wave knots warp nearby resonance structure.
 - Waves entering these regions are guided, not pulled — creating gravitational behavior.
 - This requires no curvature of spacetime, just evolving resonance geometry.
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IV. Thermodynamics and Time

10. Heat as Resonant Agitation

- Heat is the randomized micro-resonance energy in a system.
- More agitation = more modes activated = higher temperature.

11. Entropy and Time

- Entropy = wave entanglement and complexity.
- Time = perception of increasing wave diversity.

- The universe is not flowing through time — it's unfolding in configuration space.

V. Cosmic Phenomena

12. Black Holes as Resonant Traps

- Black holes = zones of recursive wave trapping.
- Energy is locked by total constructive interference.
- Hawking radiation = gradual coherence breakdown at the boundary.

13. Dark Matter

- Stable Trōṇas that don't couple to electromagnetic waves.
- Invisible, but still influence surrounding resonance patterns (gravity).

14. Dark Energy

- The Tarangi has residual tension — leftover from early plucks.
- This pushes wave knots apart, driving large-scale expansion.

15. Cosmic Motion

- Everything moves: galaxies, stars, systems — all drift through the substrate.
- Even the Milky Way is just a coherent wave knot, moving with the sea.

VI. Conventional Physics Reframed

Theory	Original Assumption	Pluck Theory Reinterpretation
Copenhagen Interpretation	Wavefunction collapses upon measurement. Probabilities are fundamental.	No collapse — measurement is resonance reconfiguration. Probability = unresolved interference complexity.
Quantum Field Theory	Fields are fundamental; particles are field excitations.	No independent fields — only zones of recurrent resonance in the Tarangi.
Mass Origin (Standard Model)	Mass arises from Higgs field coupling.	Mass = stored wave energy in resonant knots (Trōṇas).

Theory	Original Assumption	Pluck Theory Reinterpretation
Higgs Boson	A particle that gives other particles mass.	A secondary excitation of the Tarangi — not mass-giving, but a resonance side-effect.
General Relativity	Gravity is spacetime curvature due to mass.	Gravity = wave guidance — trajectories bend due to resonant interference, not curvature.
$E = mc^2$	Energy and mass are interconvertible.	Energy = wave oscillation; mass = trapped oscillation. Equation remains valid, but reframed.
Superposition	A particle can be in multiple states at once.	A Trōṇa can contain multiple wave modes. Not abstract, but internal structure.
Entanglement	Particles affect each other instantaneously across space.	Shared substrate phase linkage from a common pluck. No action at a distance — just ongoing coherence.

VII. Final Summary

- The Tarangi is the ultimate medium — infinite, continuous, and invisible.
- A pluck is a localized excitation that propagates waves.
- Trōṇas (resonant knots) arise from intersections and persist by phase stability.
- Fields, particles, spacetime, gravity, and thermodynamics all emerge from the behavior of waves.
- The universe is not a machine, but a resonant tapestry in motion.

"We are not made of matter. We are made of motion — bound into knots by the invisible song of the Tarangi."

References

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Additional Resources

GitHub repository with full documents, notes, and source files:

<https://github.com/throna-siddhantam/throna-theory>