Unified Work–Time–Field Framework
A Carcass-Based Model of Matter, Energy, and Stability

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2025

This document presents a unified and structured formulation of the Work–Time–Field (WTF) framework. The theory interprets matter, radiation, and spacetime phenomena as manifestations of structured work performed within a directional field geometry (the "carcass"). The framework integrates gravitational interaction, isotopic stability, neutrino behavior, wave–particle duality, and limits of reversibility into a single conceptual and mathematical model. Experimental, observational, and engineering implications are discussed.

Foundational Axiom

Energy as Structured Work

The central axiom of the framework states:

$$E = t \cdot g$$

where:

- E — energy interpreted as structured work,

- t — time during which the work is performed,

- g — a coordinate of the carcass field, interpreted as local allowance or graviton participation density.

Energy is not treated as an abstract scalar, but as a process localized in both time and field geometry.

Graviton as Field Coordinate

A "graviton" in this framework is not a particle but a coordinate state of the carcass field at which work can occur. The number of participating gravitons N_g determines how energy is distributed and stabilized.

Field Architecture and Ontology

The Carcass Field

The Universe is modeled as a unified field containing a directional scaffold (carcass) that defines allowed paths for work and wave propagation.

- Where the carcass exists, waves, mass, and interaction are possible.

- Where the carcass is absent, no work, mass, or interaction can occur.

Dark matter is interpreted as carcass geometry outside the observable interaction spectrum.

Wave and Particle as Field States

- **Wave**: a distributed gradient of work along the carcass.

- **Particle**: a localized, stabilized resonance of work.

Wave–particle duality arises from localization versus distribution along the same field structure.

Matter Stability and Energy Bands

Stability Band

Stable matter exists within an intermediate allowance region of the carcass:

- Upper branch: quarks, Higgs decay products, photons.

- Equilibrium: electrons, stable nuclei.

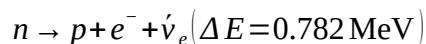- Lower branch: neutrinos, decay remnants.

Isotopic Stability Criterion

A nucleus is stable when the neutron-to-proton ratio aligns with the local field configuration:

$$\frac{N_n}{N_p} \in \textcolor{red}{¿}$$

Stability is relative and depends on local carcass allowance, not solely on particle count.

Neutron as Energy Reservoir

The free neutron functions as an energy buffer. Its decay:

$$n \rightarrow p + e^- + \acute{v}_e \left(\Delta E = 0.782\,\text{MeV} \right)$$

signals the inability of the system to stabilize within the local allowance.

Work Distribution and Decay

Work per Graviton

$$W = \frac{E}{N_g}$$

Exceeding the local allowance per graviton leads to decay or phase transition.

Decay Rate Modification

External energy feeding modifies decay probability:

$$\Delta\lambda \approx \alpha \cdot \frac{P_{in}}{E_{rest}}$$

where α is a sensitivity coefficient and P_{in} is injected power.

Astrophysically significant effects require stellar-core or pre-supernova flux densities.

Wave Propagation and Interference

Wave as Field Displacement

A wave is defined as a structured displacement of the carcass field. Propagation does not consume energy for self-transport, except during interaction or interference.

Phase Cancellation

Anti-phase wave superposition leads to field tension cancellation, implying:

- measurable limits on transported wave energy,
- potential local condensation effects at collision points,
- a method for experimentally bounding wave energy independent of radiation pressure.

Gravitation and Geometry

Gravitation as Carcass Configuration

Gravity does not act as a classical force but as a manifestation of carcass geometry. The center of mass represents a convergence point of field allowance, not an interaction with empty space.

Gravitational Waves

Amplitude depends on energy distribution:

$$A \sim f\left(E_\uparrow, E_\downarrow\right)$$

Low observed amplitude during massive mergers implies energy transfer into lower (field-closing) branches.

Warp and Displacement Mechanics

Jump Without Translation

Displacement is achieved by restructuring the carcass:

$$F(x,y) = e^{-k\left(x^2 + y^2\right)}$$

The object does not move through space but rebinds to a new coordinate without performing classical work.

Engineering Implications
- No relativistic desynchronization if no work is performed.
- Dual-charge stabilization prevents destructive phase shear.

Experimental Proposals

Laboratory
- Data degradation under varying field density.
- Decay-rate modification under external energy feed.
- PN-junction closure without physical contact.

Astronomical
- Galaxy core classification by stellar age distribution.
- Neutrino clustering in high-activity regions.

- Absence or presence of matter formation near wave collision zones.

Limit of Reversibility

The reverse transition from matter to coherent wave requires total phase synchronization:

$$\lim_{E \to E_{\text{crit}}} \frac{dW}{dt} = 0$$

Such a state exceeds any achievable physical condition, defining a natural boundary of matter.

- Radiation — partial phase loss.

- Black holes — closure of phase space.

- Neutrinos — minimal coherent leakage.

Conclusion

The WTF framework interprets stable matter as a terminal resonance of a universal work field. Apparent eternity of particles arises naturally from field topology rather than symmetry constraints.

Further progress lies not in deeper subdivision of matter, but in understanding the topology, alignment, and engineering control of resonant work states.

Beyond this point lies not substance, but structure.