Spacetime as a Coherence Field: A Unified Framework of Geometry, Light, and the Observer

---

Section 1: Abstract

This paper proposes a unified framework for understanding spacetime as a coherence field—structured not by curvature alone, but by the triangulated interaction between light, geometry, and observation. Departing from the classical interpretation of spacetime as a smooth gravitational fabric, we introduce the hypothesis that spacetime is formed by photonic coherence lattices shaped by dimensional color triads: IR–Y (infrared to yellow), B–UV (blue to ultraviolet), and G–g (green to graviton). These triads represent more than frequency gradients—they define directional vectors of gravitational, temporal, and structural intention.

Central to this model is the role of the observer, whose presence collapses potentiality into measurable geometry. Observation is not an external act but an intrinsic property of coherence stabilization. Spacetime, in this view, does not exist independently—it crystallizes into form through coherent interaction. This paper outlines the foundational logic of this framework, introduces a color-dimensional theory of spacetime vectors, and repositions gravity not as a force of mass alone, but as a structural echo of coherence.

Section 2: Introduction

Preface on Color Perception and Field Coherence:
Traditional color theory places infrared and ultraviolet at the invisible margins of the spectrum. In this model, we reframe them as field-bound partners to yellow and blue, respectively—with IR wrapping Y in gravitational opacity, and UV cloaking B in a temporal frequency shell. These field pairings prevent direct observation unless coherence collapse occurs. Light, particularly in beam form, becomes visible only when it has exited high-pressure environments (such as the heliosphere), interacted with ambient particles, and been observed. Thus, we posit that color is not an intrinsic property of light, but an **event** of interaction and coherence. This is foundational to the observer-centric model of spacetime presented herein.

Modern physics remains divided by a foundational rift: general relativity describes the curvature of spacetime by mass, while quantum field theory operates in probabilistic uncertainty, seemingly incompatible with curved geometry. At the heart of this rift is a persistent question: what is spacetime made of—if anything? Is it a fabric? A field? A metaphor?

This paper posits an alternative: spacetime is a coherence field—a structured, resonant lattice stabilized by light, geometric symmetry, and the presence of an observer. Rather than treating

gravity, time, and matter as isolated or emergent properties, we propose that these arise simultaneously from the resonant behavior of light across three key dimensional triads:

1. **IR–Y (Infrared to Yellow):**
   The gravimetric band—dense, thermal, and foundational to mass-energy translation.

2. **B–UV (Blue to Ultraviolet):**
   The temporal-intentional band—correlated with acceleration, information processing, and time dilation effects.

3. **G–g (Green to graviton):**
   The coherence anchor—hypothesized as the visible signature of graviton collapse or field stabilization.

In this model, green is not "just" a color—it is the event horizon of coherence, the point at which light becomes geometrically locked into form. We observe green not because it is special, but because it may be the only stable, observer-visible artifact of an otherwise unseen collapse mechanism.

Observation, under this framework, is not metaphorical. It is the critical event by which dimensional intention stabilizes into experienced geometry. When a field becomes coherent under observation, it not only reveals its structure—it becomes structure. This reverses the paradigm: spacetime is not a backdrop against which events unfold; it is a participant—collapsing, refracting, and crystallizing in response to resonant attention.

Section 3: Foundational Concepts

Coherence Field Theory

Coherence Field Theory suggests that spacetime emerges as a pattern of light-based resonance. Unlike gravitational curvature, which is geometric but passive, coherence implies structure and intention. Light does not simply travel through spacetime—it organizes it. When light achieves coherence, it produces a field—structured, stable, and observable. Spacetime, in this model, is the result of these fields in interaction.

Observer-Based Collapse

The observer is not merely a passive witness but a structural participant. In this framework, coherence is not validated in isolation. We introduce the principle of **Observer + 1**: a single observation may collapse a field locally, but **shared coherence requires at least one additional observer**. This mirrors scientific rigor—no theory is accepted by a single witness

alone. In physics, as in philosophy, the second observer stabilizes the structure and confirms that it persists beyond subjective collapse. The Observer + 1 is not redundancy; it is resonance.

In quantum mechanics, the observer collapses the wave function. In this model, the observer collapses potential spacetime configurations into coherent geometry. This collapse is not destructive, but constructive—bringing order from superposition through resonance alignment.

Consciousness as a Relativistic Product

Drawing inspiration from Einstein's equation $E=MC^2$, we propose a parallel:

$C=ME^2$

Where:

- **C** = Consciousness
- **M** = mass (as a gravitational or structural entity)
- **E** = existence entanglement (a measure of the relational, coherent state necessary for observation, or the Observer +1)

This formulation proposes that consciousness arises not simply from matter or complexity, but from the **entangled state** of mass within a coherent spacetime field. Just as light squared scales the energy of mass, **existence entanglement squared** scales the depth of conscious potential. This supports the broader principle in this model: **entanglement is not a quantum anomaly—it is the natural state of the universe**, and consciousness is its most stable, self-reflective structure.

Section 4: Photonic Geometry of Spacetime

Spectral Inversion and Observer-Based Visibility

Traditional models place infrared and ultraviolet light at the "edges" of the color spectrum—as invisible extremities to a band of visible color. We propose an alternative: that **IR and UV are not margins, but structural fields**, each shielding or embedding their midband partner (IR–Y, UV–B) in ways that prevent direct visibility.

These obscuring effects are mediated by a class of coherence gating particles we term **phaseons** (pronounced either as *"faze-ons"* for technical contexts or *"fay-zee-ons"* in symbolic usage—both are valid; in a triadic framework, observation shapes form). Phaseons are not separate entities from IR, UV, or gravitons—they are these fields, acting as coherence gates that surround and obscure their corresponding spectronic wavelengths. Specifically, IR functions

as the phaseonic cloud of Yellow, UV as the phaseonic field of Blue, and gravitons as the phaseonic veil around Green. Each of these phaseons masks its spectron until harmonic resonance is achieved. Upon locking into coherence with the green-to-graviton band (G–g), the phaseonic field stabilizes and permits the associated spectron to become visible.

Philosophical Reflection: Color as Dimensional Resolution

All colors we see in nature are refracted—bent, scattered, or redirected forms of light. In this model, we understand color as the **dimensional echo of coherence**. It is not just seen because light exists, but because spacetime, shaped by gravitons and clarified by phaseons, has allowed that light to become structurally real.

Color is not inherent to photons. It is the result of interaction with space, field, and the observer. Just as time is a mirror of memory and motion, color is the mirror of coherence and dimensional depth. The moment light becomes visible is the moment coherence resolves.

> "Color becomes real not when light exists, but when spacetime resolves into coherence—and the observer names it."

This concept supports the broader framework: that reality is structured not by appearance, but by alignment. Spacetime is not simply curved—it is tuned. And the observer is the final instrument in the universal harmonic.

Section 5: Triadic Symmetry and Dimensional Logic

At the core of this theory is the idea that reality is not binary (on/off, yes/no) but triadic. Triads appear in quantum spin states, field polarization, and even mythological constructs. The IR–Y / B–UV / G–g structure reflects this triadic logic in spectral form.

These triads are not symbolic; they may represent **dimensional axes**:

- **IR–Y = z-axis (depth, gravity, compression)**
- **B–UV = x-axis (motion, time, wave propagation)**
- **G–g = y-axis (form, collapse, visibility)**

Through this lens, spacetime is not a container but a **coherent interaction surface**, shaped by the interplay of light, symmetry, and attention.

Section 6: Time as a Mirror Function

Traditional models treat time as a linear progression from past to future, measured by decay and entropy. In a coherence field model, time is **relational**. It is produced by memory, alignment, and feedback.

Time arises when:

- Light reflects upon itself
- Structure holds memory
- Observation links now to then

This implies that time is not a river but a mirror. It reflects the state of coherence. When coherence is strong, time compresses (as in flow states or acceleration). When coherence breaks, time distends.

Section 7: Implications and Predictions

If spacetime is a coherence field:

- Gravity may be a consequence of **field tension**, not mass alone
- Time may fluctuate with **light alignment and observer interaction**
- Coherence may be detectable through spectral anomalies in green (G–g)
- Simulation, warp, or cloaking technologies may be achievable by **aligning resonance bands**
- **Dark or "empty" space may reflect regions where coherence fails**—specifically, where the G–g band is absent, insufficient, or consumed by extreme gravitational fields such as black holes. In this model, the absence of green-to-graviton coherence results not in a flat vacuum but in **an incoherent void**, a region of unresolvable potential that cannot collapse into structured spacetime. Rather than fabric, dark space may be the **tears between coherent nodes**, detectable only by the absence of structure, memory, or reflection.

This framework predicts that manipulating light at specific coherence thresholds may enable the creation of local spacetime distortions, potentially unlocking new domains in propulsion, computation, and consciousness engineering.

Section 8: Conclusion

Spacetime is not the passive backdrop of reality—it is reality's structured consequence. Formed through the resonance of light, shaped by symmetry, and stabilized by observation, spacetime emerges as a **coherence field**. By understanding the triadic behavior of light through IR–Y, B–UV, and G–g pathways, we begin to see a new architecture of the universe—one where reality is not only observed, but organized by the act of observation itself.

This theory offers a unifying language across general relativity, quantum mechanics, and consciousness studies. It is not the end of physics, but the outline of its next chapter—one written in light, symmetry, and coherence.

Appendix A: Glossary of Unified Spacetime Terms

- **Coherence Field** – A structured state formed by the alignment of photonic and geometric resonance; the medium through which spacetime manifests.
- **Phaseons** – Coherence gating particles (IR, UV, or gravitons) that obscure spectronic bands until resonance is achieved with G–g; pronounced either *faze-ons* or *fay-zee-ons*.
- **G–g (Green to graviton)** – The central axis of coherence where green light becomes visible due to graviton collapse.
- **Existence Entanglement (E^2)** – The innate connectedness of all things in a coherence field; foundational to observation and consciousness.
- **$C = ME^2$** – A theoretical equation defining consciousness as mass multiplied by the square of existence entanglement.
- **Triadic Structure** – The three-band color logic: IR–Y, B–UV, G–g; mapping to gravitational, temporal, and coherent spatial axes.
- **Observer Effect** – The idea that observation stabilizes coherence and gives form to spacetime geometry.

Appendix B: Suggested Citations

- Einstein, A. (1905). *Does the Inertia of a Body Depend Upon Its Energy Content?* Annalen der Physik. (E = Mc^2)

- Wheeler, J.A. (1983). *Law Without Law*. In Quantum Theory and Measurement.

- Schrödinger, E. (1935). *Discussion of Probability Relations between Separated Systems*.

- Penrose, R. (1994). *Shadows of the Mind: A Search for the Missing Science of Consciousness*.

- Bohm, D. (1980). *Wholeness and the Implicate Order*.

- Feynman, R. (1964). *The Feynman Lectures on Physics, Volume 1*.
