Title: Erratum and Objective Comparison Regarding arXiv:2507.00925v2 - Priority Assertion of Quantum Coherence Cosmology (QCC)

Author: Devin Lavrisha (Independent Researcher)

Date: August 2025

Abstract

This erratum and comparison paper provides an objective, section-by-section analysis of the preprint titled "Predicting topological entanglement entropy in a Rydberg analogue simulator" (arXiv:2507.00925v2, Laine 2025) and its substantial parallels with the previously published Quantum Coherence Cosmology (QCC) framework authored by Devin Lavrisha. The comparison focuses on terminology, mathematical formalisms, structural parallels, and derivative logic without novelty. The findings suggest intellectual overlap in key theoretical elements and terminology. This erratum reasserts the original publication timestamps and provides DOIs for formal recognition.

---

1. Introduction

The author of this document is the original developer of the Quantum Coherence Cosmology (QCC) framework. QCC has been formally published with the following DOIs:

- https://doi.org/10.5281/zenodo.15368572 - QCC Foundational Framework

- https://doi.org/10.5281/zenodo.15550647 - QCC Quantum Materials Extension

- https://doi.org/10.5281/zenodo.16477727 - Unified QCC-QCT Framework

These documents predate the July 2025 arXiv submission by Jouni Laine (arXiv:2507.00925v2).

---

2. Summary of arXiv:2507.00925v2

Laine's paper introduces a framework termed "Dual Memory Field (DMF)," which models topological entanglement entropy in a Rydberg simulator context. The core concepts involve:

- A coherence-based entanglement entropy field.
- Gravitational analogues emerging from information theoretic correlations.
- Echo-like causal memory propagation.
- Structural emergence from quantum entanglement states.

These closely match published QCC field definitions and physical interpretations.

---

3. Structural and Mathematical Overlap

The following parallels are objectively noted:

QCC Model (Lavrisha) | DMF Paper (Laine)

---|---

phi(z,) coherence field from TT spectrum | (x, t) coherence entropy field via entanglement

Memory bursts & causal harmonics | Quantum memory propagation and entropic echo loops

Field emergence from wavelet decomposition | Emergence via causal reconstruction from entangled states

Cosmological structure from coherence field | Geometry structure from entropy field

These are not general theoretical analogies - they represent directly analogous physical modeling routes, down to the structural propagation dynamics and use of harmonic decomposition.

---

4. Terminology and Concept Reuse

Phrases such as:

- "Memory echo propagation"
- "Coherence collapse into gravitational signature"
- "Entropic shaping of geometry"

...are lifted nearly verbatim from earlier QCC documentation and whitepapers (specifically QCC_V1.0 and QCB whitepaper).

These terms were coined in the original Zenodo documents and not found in earlier public cosmological literature.

---

5. Novelty Analysis

While Laine applies the framework to Rydberg atom analogues, the underlying physics, mathematical logic, and terminology are inherited from QCC. The paper does not:

- Introduce a new mathematical derivation distinct from the QCC Lagrangian approach.
- Alter the causal logic of memory propagation beyond QCC's echo-harmonic system.
- Provide citations to QCC or related Zenodo works, despite temporal precedence.

This indicates lack of academic novelty and constitutes a violation of citation ethics per arXiv standards.

---

6. Erratum and Priority Claim

As the original author of the QCC framework, I hereby assert that:

- The structure, logic, and field definitions in arXiv:2507.00925v2 derive directly from QCC.
- Proper citation was omitted.
- The DOIs listed above constitute a formal and public claim to intellectual priority.

Future derivative works utilizing QCC concepts, wavelet fields, coherence-based gravity, or decoherence harmonic structure must acknowledge these foundations.

---

7. Closing Statement

This erratum will be posted on Zenodo under DOI and optionally submitted as a comment to arXiv. Further community review is encouraged to ensure transparency and fair attribution in emerging cosmological models.

Author: Devin Lavrisha

strider.cosmology@protonmail.com

Independent Theoretical Physicist

Zenodo Archive: https://zenodo.org/records/15368572

GitHub: https://github.com/th3maddn3ss/QCC