



# Chayut Universe Wave Function

Paper C-4: CUWF Tensor Field Theory

Tensor-Based Deterministic Quantum Dynamics Without  
Probability

**Title:** Chayut Universe Wave Function Paper C-4: CUWF Tensor Field Theory :  
Tensor-Based Deterministic Quantum Dynamics Without Probability

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## Abstract

Modern quantum theory still carries a central unresolved assumption: when collapse occurs, the outcome is fundamentally random. Paper C-4 rejects that assumption and develops a full tensor-field formulation of CUWF in which no probabilistic postulate is required. In place of wavefunctions, Born weights, and measurement-induced collapse, CUWF describes the universe as a tensorial wave-curvature engine, where stability, tunneling, entanglement, decoherence, and collapse emerge from geometry rather than chance.

This volume establishes the entropic manifold  $M = C \times M_{\text{DOF}}$  and introduces three core tensorial objects that form the operational backbone of the C-4 framework:

Stability Tensor  $T^{\wedge IJ}$  — the eigen-curvature structure governing collapse, soft modes, and tunneling thresholds.

Entanglement Tensor  $\Xi^{\wedge IJ}$  — the cross-sector coherence geometry through which multi-node correlation becomes possible.

Curvature Tensor  $R^{\hat{I}_j \hat{K}L}$  — the manifold-bending structure through which quantum emergence is expressed geometrically.

These tensors assemble into a closed wave-curvature field-equation system. The resulting structure is formally parallel to a geometry-plus-source law, but it does not require Hilbert-space probability or a measurement axiom:

$$\text{Geometry: } R^{\hat{I}_j} - 1/2 g^{\hat{I}_j R} = K S^{\hat{I}_j} + \lambda \Xi^{\hat{I}_j}$$

$$\text{Field: } \text{Box}_E E = F(E, T, \Xi)$$

Quantum behavior occurs when the minimum eigenvalue of  $T^{\hat{I}J}$  approaches and crosses zero. This transition is not produced by an observer and is not selected by randomness. It occurs because curvature softens, changes sign, and re-routes the collapse trajectory into another basin.

Collapse → basin switching

Tunneling → curvature inversion

Entanglement → geometric connectivity

No randomness required.

In this formulation, Paper C-4 replaces the main conceptual objects of standard probabilistic quantum mechanics as follows:

$$\psi \rightarrow \{T, \Xi, R\}$$

Born rule → argmin curvature path

Wavefunction collapse → deterministic basin selection

The result is a simulation-ready deterministic quantum framework, prepared for numerical solvers, multi-node stability modeling, and future laboratory prediction in the later C-series and D/E experimental volumes.

## Keywords

### Primary Theory Terms

Tensor Quantum Mechanics  
Deterministic Quantum Dynamics  
Entropic Manifold Geometry  
CUWF (Chayut Universe Wave Function)

### Core Mathematical Objects

Stability Tensor  
Entanglement Tensor  
Curvature Tensor  
Entropic Stress Tensor  
Wave–Curvature Field Equations

### Conceptual Replacements for Standard QM

Non-probabilistic Collapse  
Born Rule Replacement  
Basin Switching Dynamics  
Eigen-Curvature Selection  
Geometry-Driven Tunneling

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