

# The Theory of Primordiariness: Extended Mathematical Framework

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## Abstract

This expanded edition formalizes and extends the **Theory of Primordiariness**, a novel ontological framework proposing that reality emerges from the continuous interaction between *existence* ( $E$ ) and *potential* ( $P$ ). The theory asserts that reality does not move toward a final equilibrium but persists through a recursive process of emergence. Rather than a deterministic system solving toward resolution, Primordiariness describes an ever-evolving state where structure (1) and possibility (0) remain in constant negotiation.

This framework provides a fresh perspective on several fundamental physics concepts. It suggests that quantum uncertainty arises from unresolved potential states, reinforcing the idea that wave function collapse is not an instantaneous event but an emergent process. In relativity, the model proposes that singularities, such as black holes, do not represent absolute endpoints but instead transition phases leading to white hole expansion. This aligns with recent theoretical work suggesting black holes may undergo transformation rather than complete collapse. Additionally, the entropy-driven model supports the notion that time is not a fundamental dimension but an emergent property dictated by structural evolution.

By integrating these equations with established physics principles, this paper presents a mathematically grounded model for understanding the persistence of reality. The results suggest that reality is neither purely deterministic nor entirely stochastic but is governed by a structured, evolving interplay between what is and what could be. Implications extend across **quantum mechanics**, **general relativity**,

**thermodynamics, and cosmology**, providing a foundation for further exploration into the intersection of physics, information theory, and emergence.

## 1 Introduction

The Theory of Primordiariness proposes that existence ( $E$ ) and potential ( $P$ ) interact dynamically, preventing reality from ever reaching a final resolved state. This model aligns with key features of quantum mechanics, relativity, and thermodynamics, offering a possible unifying principle for the persistence of reality.

## 2 Mathematical Framework

### 2.1 Core Emergence Model

This model represents the foundational process of reality, where existence ( $E$ ) is continuously reshaped by unrealized potential ( $P$ ).

$$\frac{dE}{dt} = P - \tanh(E) + \Lambda E - \Gamma \ln(1+t) - \Delta e^{-t/100} \quad (1)$$

$$\frac{dP}{dt} = -EP - \Lambda P + \frac{\Omega}{1+t} - \Delta e^{-t/100} \quad (2)$$

### 2.2 Beyond the Singularity: White Hole Expansion

This model extends the black hole framework by proposing that singularities do not represent absolute endpoints but rather transition phases, leading to white hole expansion.

$$\frac{dE}{dt} = -P + \tanh(E) - \Lambda E + \Gamma \ln(1+t) + \Delta e^{-t/100} - H e^{-t/50} + W e^{-t/200} \quad (3)$$

$$\frac{dP}{dt} = EP + \Lambda P - \frac{\Omega}{1+t} + \Delta e^{-t/100} + H e^{-t/50} - W e^{-t/200} \quad (4)$$

### 2.3 Higher-Dimensional Emergence (5D+ Expansion)

This model suggests that our perception of 4D space-time is a lower-dimensional projection of a more complex reality.

$$\frac{dE}{dt} = P - \tanh(E) + \Lambda E - \Gamma \ln(1+t) - \Delta e^{-t/100} + \sin(nD) \quad (5)$$

$$\frac{dP}{dt} = -EP - \Lambda P + \frac{\Omega}{1+t} - \Delta e^{-t/100} + \cos(nD) \quad (6)$$

### 2.4 Entropy and The Arrow of Time

This model reframes time as an emergent byproduct of entropy-driven evolution.

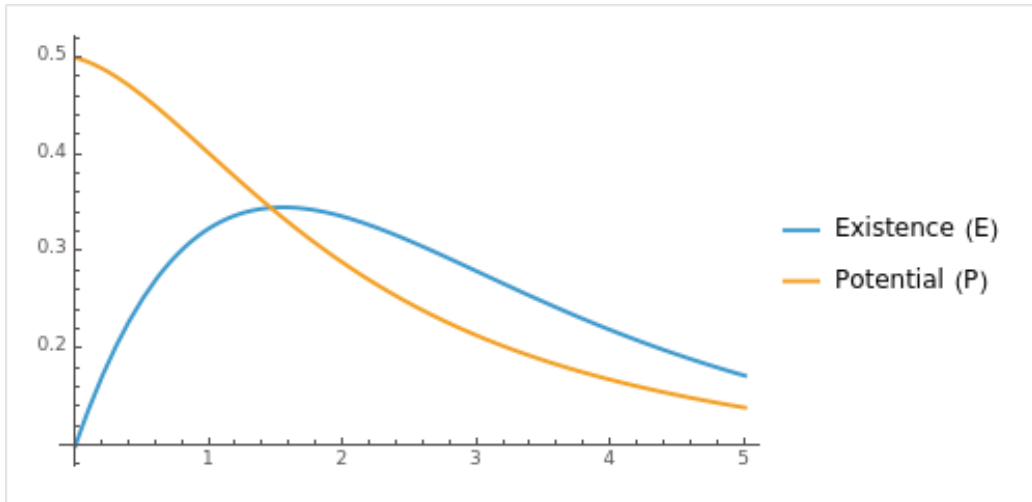
$$\frac{dE}{dt} = P - \tanh(E) + \Lambda E - \Gamma \ln(1+t) - \Delta e^{-t/100} + S e^{-t/500} \quad (7)$$

$$\frac{dP}{dt} = -EP - \Lambda P + \frac{\Omega}{1+t} - \Delta e^{-t/100} - S e^{-t/500} \quad (8)$$

## 3 Simulation Results

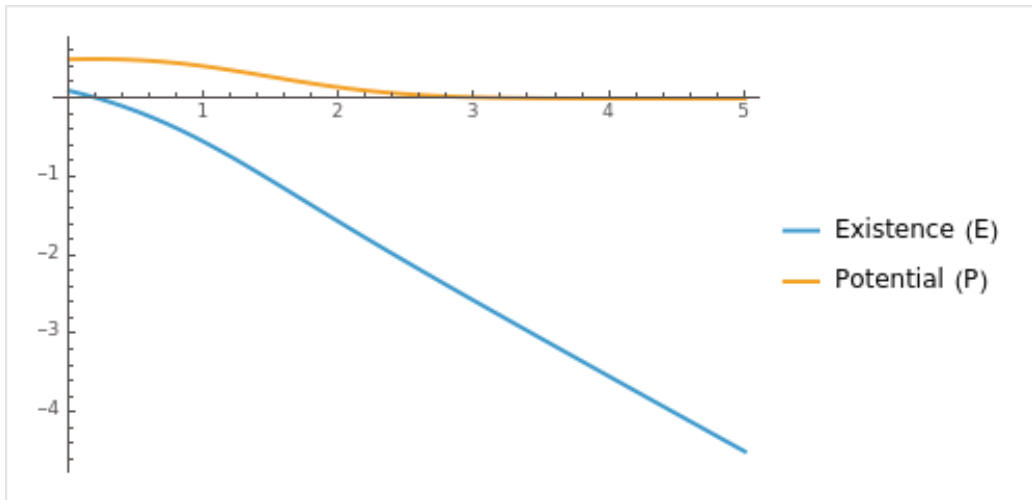
All models have been computationally simulated using Wolfram Mathematica. The numerical solutions illustrate how  $E$  and  $P$  evolve dynamically over time.

### 3.1 Core Emergence Model



**Interpretation:** This dynamic exchange suggests that wave function collapse occurs as an emergent process, rather than an instantaneous event. Quantum states persist in superposition because reality itself is never fully "solved."

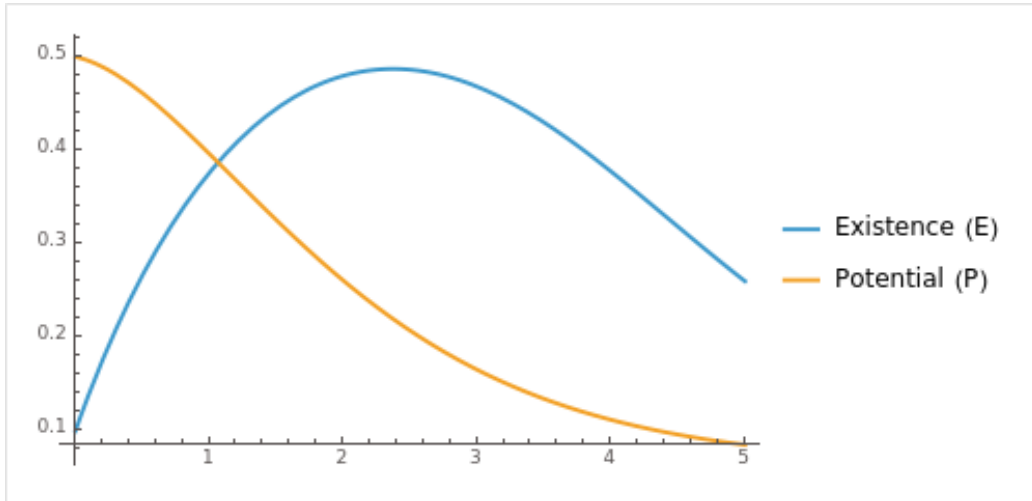
### 3.2 White Hole Expansion Model



**Interpretation:** If singularities evolve into white holes, this supports recent proposals that black holes are not "dead ends" but are instead critical points of unresolved emergence —consistent with theoretical work on white hole

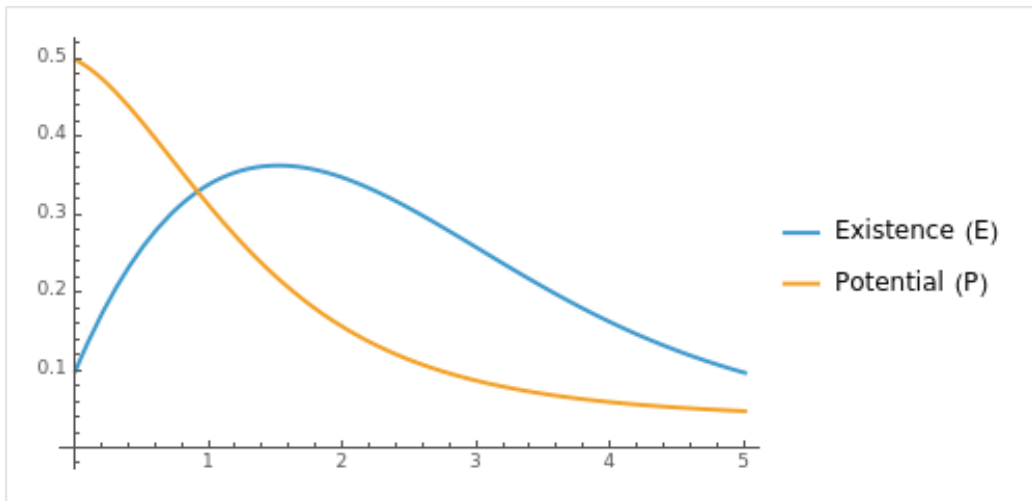
formation.

### 3.3 Higher-Dimensional Emergence Model



**Interpretation:** This equation supports the idea that quantum fluctuations and spacetime curvature may emerge from underlying multi-dimensional oscillations.

### 3.4 Entropy Evolution Modell



**Interpretation:** This supports the view that time is not an absolute quan-

tity, but a function of increasing entropy. It also aligns with quantum decoherence, reinforcing the notion that time emerges from energy-state transitions.

## 4 Conclusion

By integrating mathematical modeling with empirical physics, the Theory of Primordiariness offers a novel explanation for the persistence of reality.

### 4.1 Future Work

- Investigate experimental approaches for detecting unresolved potential states.
- Explore whether primordial energy fluctuations align with cosmic background radiation.
- Extend the framework to simulate quantum entanglement as an emergent effect of non-resolved potential.

## 5 References

1. Heisenberg, W. (1927). Quantum Mechanics and Uncertainty Principles.
2. Gödel, K. (1931). Formal Systems and Incompleteness.
3. Hawking, S. (1988). *A Brief History of Time*.
4. Shannon, C. (1948). Information Theory and Communication.

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