Foundations of Physics: The Law of Quantized Reorganization Rate and the Theorie of Euclidean Quantum Reorganization

Author: Christian B. Mueller, Munich, Germany
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Abstract

This paper presents a novel framework for fundamental physics that replaces the geometric curvature of spacetime with a resource-based conservation law. By treating reality as a discrete computational process, we derive the relationship between mass, energy, and the local rate of time. The model progresses from a 3D-accounting perspective (LQRR) to a 4D-Euclidean resonance framework (TEQR), providing a unified explanation for gravity, time dilation, and projection-based phenomena often attributed to Dark Matter.

Chapter 1: The Law of Quantized Reorganization Rate (LQRR)

The 3D-Perspective: Mass as a Process
Date: 31. January 2026

1.1 Core Axioms

1. **Universal Capacity (Ω):** Reality is governed by an invariant local reorganization capacity.

2. **Consumption by Matter ($m \cdot c^2$):** Mass is not a passive object but a dynamic process that "consumes" this capacity to maintain structural integrity.

3. **Quantized Time ($n \cdot Ep$):** Time is the discrete residual of this capacity. The integer n represents the local clock rate, and Ep is the Planck energy.

   1. **Note on Scales:** $E_p = \hbar / t_p$ (where $\hbar$ is the Planck constant and t_p is Planck time). The grid resolution follows $l_p = c * t_p$.

1.2 The Conservation Equation

The fundamental balance of existence is defined as:

$$\Omega = m \cdot c^2 + n \cdot E_p$$

In this 3D-projection, gravity is not a force but a gradient of the local clock rate (n). Where mass (m) is high, the clock rate (n) must quantized-shrink to keep Omega constant, providing a purely computational explanation for time dilation.

Chapter 2: Theory of Euclidean Quantum Reorganization (TEQR)

The 4D-Perspective: Geometric Derivation via Resonance
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2.1 Transition to 4D-Euclidean Space

By moving from a 3D-projection to a 4D-Euclidean framework, time is treated as a fully spatial dimension rather than a pseudo-Riemannian one. This leads to a universal 4D-velocity constant derived from the 4-vector magnitude:

$$c_4 = c \cdot \text{sqrt}(2)$$

2.2 The Resonance Identity

The expanded conservation law within the 4D-grid is formulated as:

$$\Omega = m \cdot c_4^2 = 2n \cdot E_p$$

This suggests a state of 4D-Resonance, where mass-energy and the "reorganization budget" are perfectly dual.

- **The Photon as n=1 Resonator:** Within this 4D-Euclidean framework, a photon is identified as the fundamental **n=1 resonance state**. It is a single-quantum oscillation of the grid. Since it possesses no rest mass (m=0), its entire capacity is dedicated to the minimum quantum of reorganization, acting as the primary informational carrier of the 4D-structure.

2.3 Emergent Properties

- **The Storage Direction:** The perceived "flow" of time is a subjective effect of the storage direction within the static 4D-block. Causality is an emergent property of how information is fixed within the Euclidean grid.

- **4D-Resonance Force:** This model predicts that Dark Matter and the Vacuum Catastrophe are not missing particles or energy, but projection residues of the 4D-total energy (Omega) onto our 3D-perceptual slice.

AI Assistance Disclosure

This document was drafted with the assistance of an AI to ensure precise translation and a concise summary of the core concepts. The underlying physical theory, the "reorganization capacity" of spacetime, and the 4D-Euclidean derivation are the results of the author's independent research.