
Cosmologos

This theory represents an attempt to reconcile general relativity and quantum mechanics, offering a coherent framework for exploring the fundamental nature of reality—where time and space each operate independently along their own axes within a universal reference frame.

1 Introduction

The theory presented here unifies quantum mechanics and general relativity through the concept of Quantum Space-Time Relativity (QSTR). At the core of this framework lies a quantized structure for both space and time, where classical continuous models are replaced by discrete quantum states that fluctuate and interact at the smallest scales.

Unlike traditional models where time is purely relative and observer-dependent, this framework posits that there exists an absolute, universal cosmological time. This cosmological time is continuous, serving as a fixed, universal reference for the entire universe, independent of any local observer. In contrast, local time is treated as discrete—a series of quantum “moments” or observations—varying based on the specific spatiotemporal context of the observer. Thus, while time remains relative at the local level, it is ultimately anchored to this universal cosmological time, which offers a consistent and unchanging backdrop for all events across the cosmos.

Space is reimagined as consisting of quantum spatial states—discrete, fluctuating entities governed by quantum mechanics, all anchored through an axis within a cosmological reference frame. This cosmological spatial axis serves as a universal, fixed reference that underpins all spatial states in the universe. It enables the alignment of quantum spatial states, reframing phenomena like quantum teleportation as the realignment of spatial states with respect to this axis, rather than the transfer of quantum information.

Spatiotemporal states refer to the quantum states that govern the interaction between space and time at the smallest scales. Rather than being continuous or fixed, space and time are described by these discrete, dynamic quantum states, which fluctuate and evolve in response to one another. These states are fundamental to understanding how spacetime behaves at the quantum level, providing the framework to describe quantum entanglement and spatiotemporal correlations across quantum systems.

These spatiotemporal states, as quantum representations of space and time, could not only explain quantum phenomena but also offer a new understanding of gravity. Rather than being a product of spacetime curvature, gravity in this model could emerge from the quantum fluctuations and interactions within the spatiotemporal fabric, potentially reconciling gravitational effects with quantum theory.

Versions

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