

The Compacity of Spacetime

A Conceptual and Mathematical Framework for the
Theory of Everything

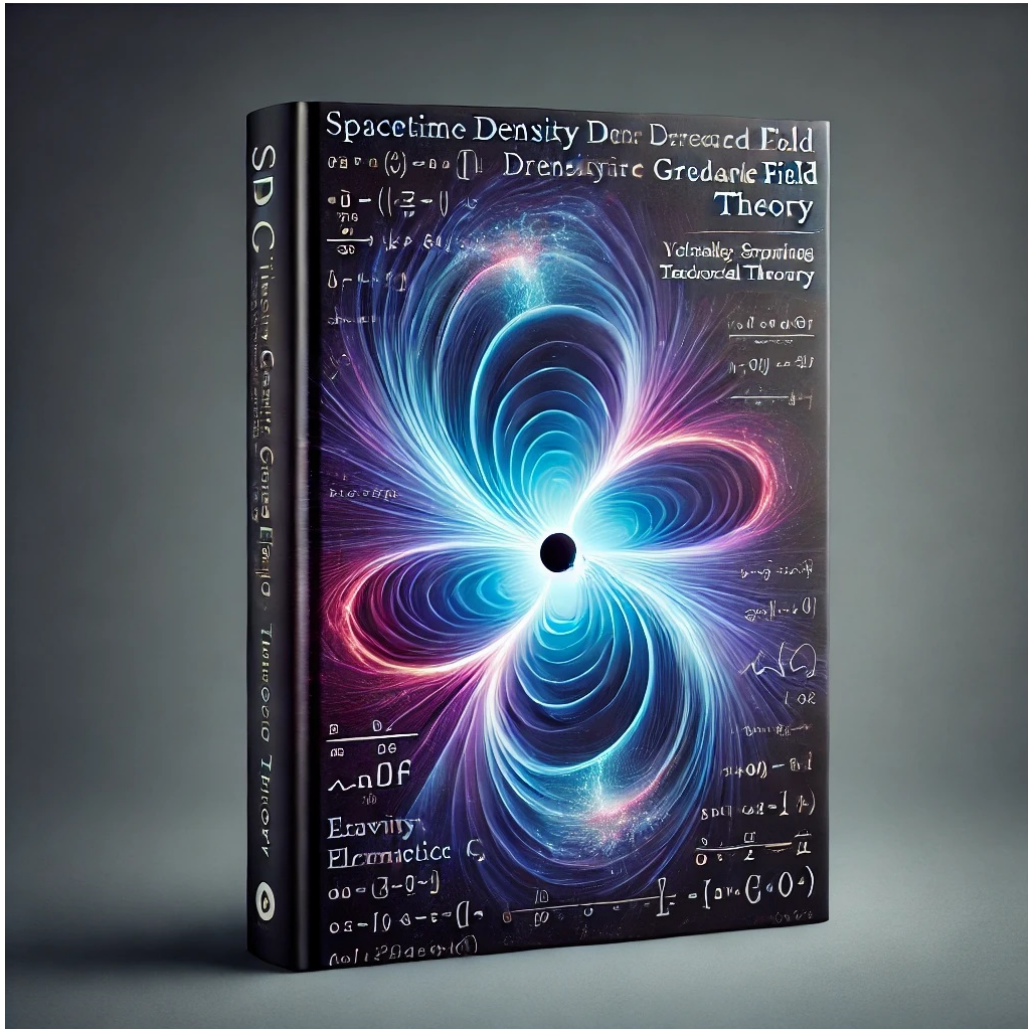


Figure 1: My Future Book

Preface: Search for The Theory

For centuries, physicists have been searching for a unified understanding of the universe, one that bridges the vast differences between the behavior of the smallest particles and the largest cosmic structures. The theories of **General Relativity** and **Quantum Mechanics** each excel in their domains, but they remain disconnected, leaving significant gaps in our understanding.

What if the missing piece lies not in the intricacies of these separate frameworks, but in a deeper, more unified view of spacetime itself? The idea of **Spacetime Compacity** offers a new perspective, proposing that spacetime is not just a smooth continuum but an interwoven network of dynamic density gradients—fractals of spacetime that can unify gravity and quantum phenomena as well as explain electromagnetism.

In this book, we will explore the potential of the **Spacetime Compacity Theory (SCT)** to offer answers to questions that have remained elusive for centuries. While **SCT** is still in development, its implications could provide a path toward reconciling the very most fundamental forces in nature. Could this be the breakthrough that brings us closer to a unified understanding of the universe?

Abstract

The Spacetime Compacity Theory (SCT) offers a groundbreaking framework in which fundamental forces, including gravity, electromagnetism, and quantum mechanics, arise from variations in spacetime compacity, rather than traditional concepts like mass-induced curvature or force-mediated interactions. This Unified Theory challenges conventional physics by positing that all forces emerge from a single underlying mechanism: the dynamic, structured density field of spacetime itself.

SCT presents a compelling alternative to the concept of dark matter, providing a natural explanation for phenomena such as galaxy rotation curves, gravitational lensing, and large-scale cosmic structure formation—without the need for undiscovered exotic particles. In addition, it extends into quantum mechanics, proposing that wave-particle duality and quantum fluctuations are not abstract concepts but rather manifestations of localized density oscillations within spacetime.

This book presents SCT from two complementary perspectives: a conceptual exploration written textually and an examination with rigorous mathematical formulation. Experimental predictions include potential gravitational wave distortions, variations in the speed of light in high-density regions, and deviations in nuclear decay rates under varying spacetime compacity conditions. If validated, SCT has the potential to unify the forces of nature, redefine our understanding of gravity, and unlock technological advancements in areas such as gravity-based propulsion (Warp Drive), energy extraction, and spacetime engineering.



Figure 2: Auther Self Portrait

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