Gravitational Substrate Theory (GST)

Page 1: Core Theory Overview

Gravitational Substrate Theory (GST) proposes that space is structured by massive, dynamic field points--not passive vacuum. Each point has mass (~1e-73 kg), contributing curvature even in the absence of particles.

Particles are wave excitations through this substrate, and their gravitational influence depends not only on their own mass, but also on the gravitational interaction with their host field points.

This framework reinterprets 'dark matter' as the latent gravitational pull of unoccupied, massive substrate points. Similarly, it reframes vacuum energy as the real, structural pressure of spacetime itself.

At 1e-18 meter spacing, GST predicts ~0.009 J/m^3 vacuum energy--far below the quantum field theory upper bound (~1e113 J/m^3), but above the observed cosmological value (~5e-10 J/m^3).

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Page 2: Structure Formation & Gravitational Lensing

In GST, galaxies form not because dark matter clumps first, but because field point curvature wells exist inherently.

These wells funnel particles (as wave excitations) into gravitational centers. Structure emerges from the curved substrate itself.

Light bends around these wells too--creating gravitational lensing effects--despite no visible mass present. This reframes lensing as an effect of spatial structure, not missing particles.

The following diagrams illustrate:

1. Curvature wells attracting particle motion (structure formation)
2. Light bending around field point curvature zones (gravitational lensing)