

Astrophysical Evidence for Cantor Dust: An Introduction

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Abstract

Cantor Dust (CD) is a hypothetical *large-scale topological condensate* of relic dimensions left over from the early stages of Universe evolution. Mirroring the ever-changing configuration of multifractal structures, CD offers a novel explanation for the distribution and behavior of Dark Matter (DM) and bridges concepts from complex dynamics, fractal geometry, and statistical physics to cosmology. Here we argue that CD offers a *unified Dark Matter model* with predictions confirmed by a wealth of astrophysical observations.

Key words: Dark Matter, Cantor Dust, continuous spacetime dimensions, multifractals and chaos, complex dynamics.

Caution:

This version of the paper represents “work in progress”, as it includes minimal content - except few representative diagrams and a partial list of references.

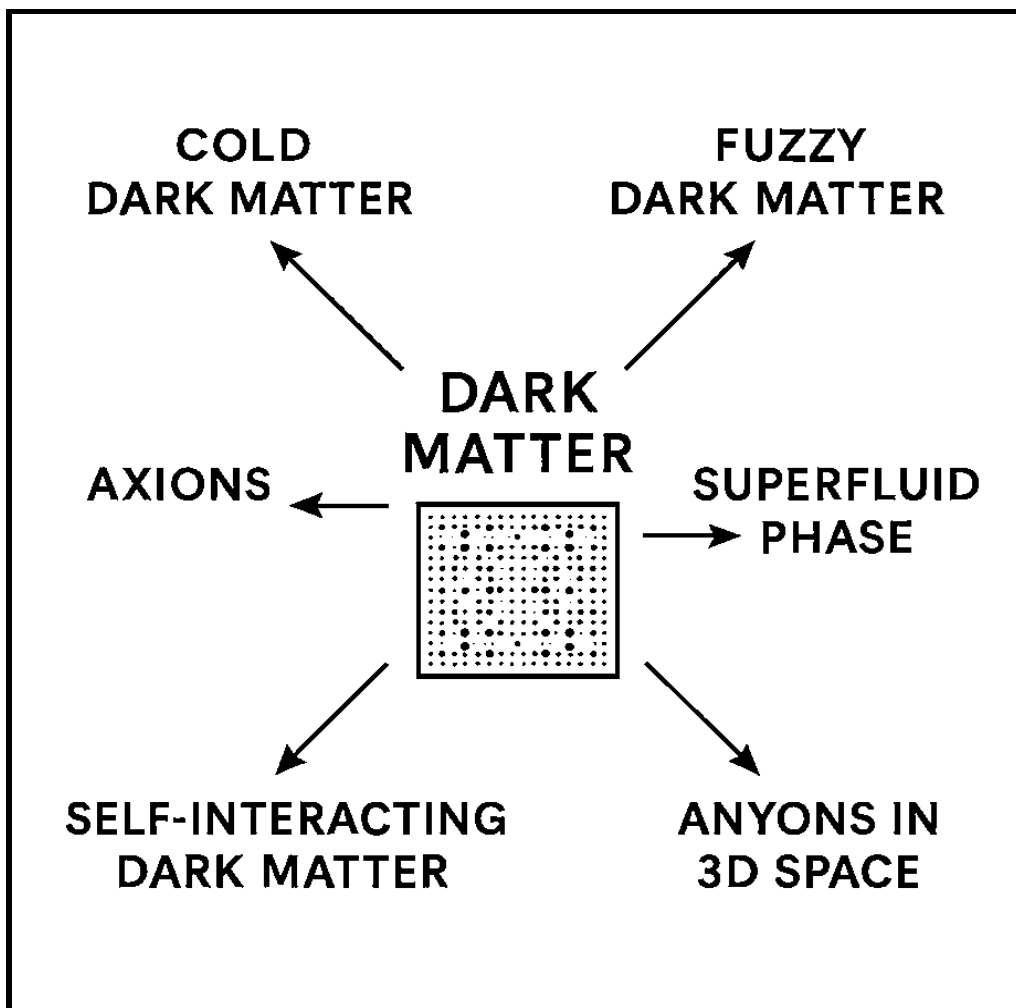


Fig. 1: The multifaceted manifestation of Dark Matter

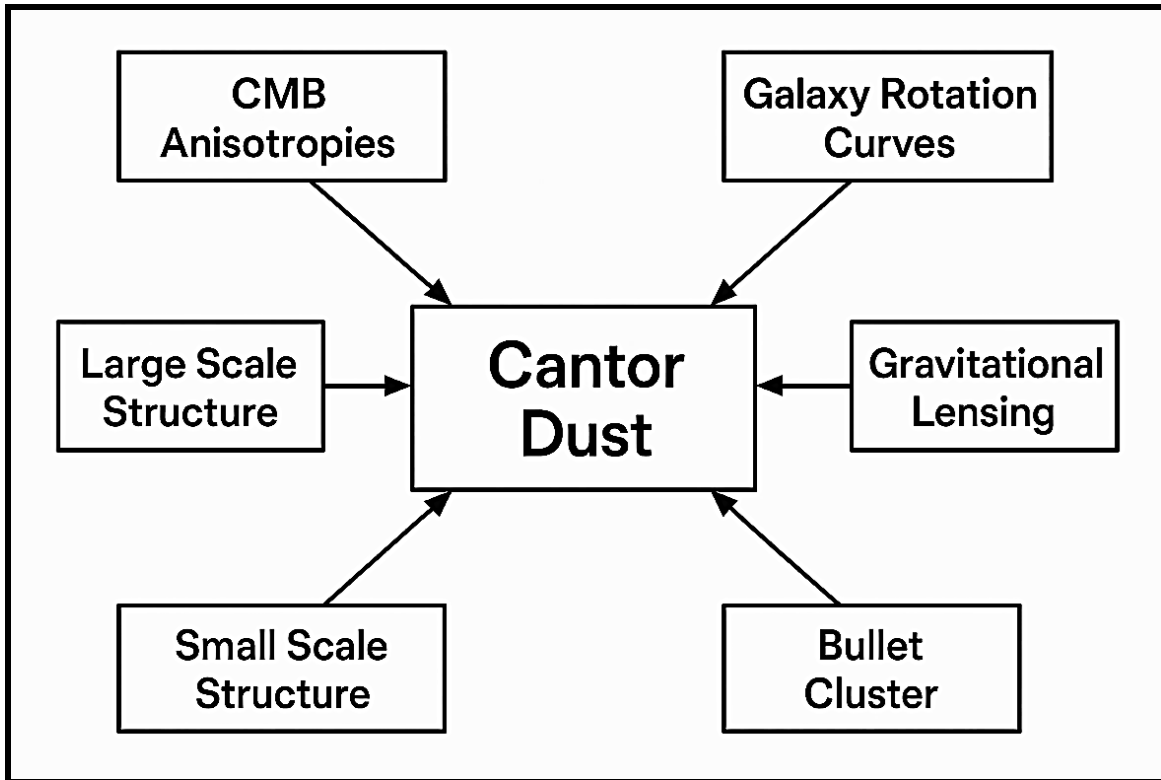


Fig. 2: Cosmological implications of Dark Matter as Cantor Dust

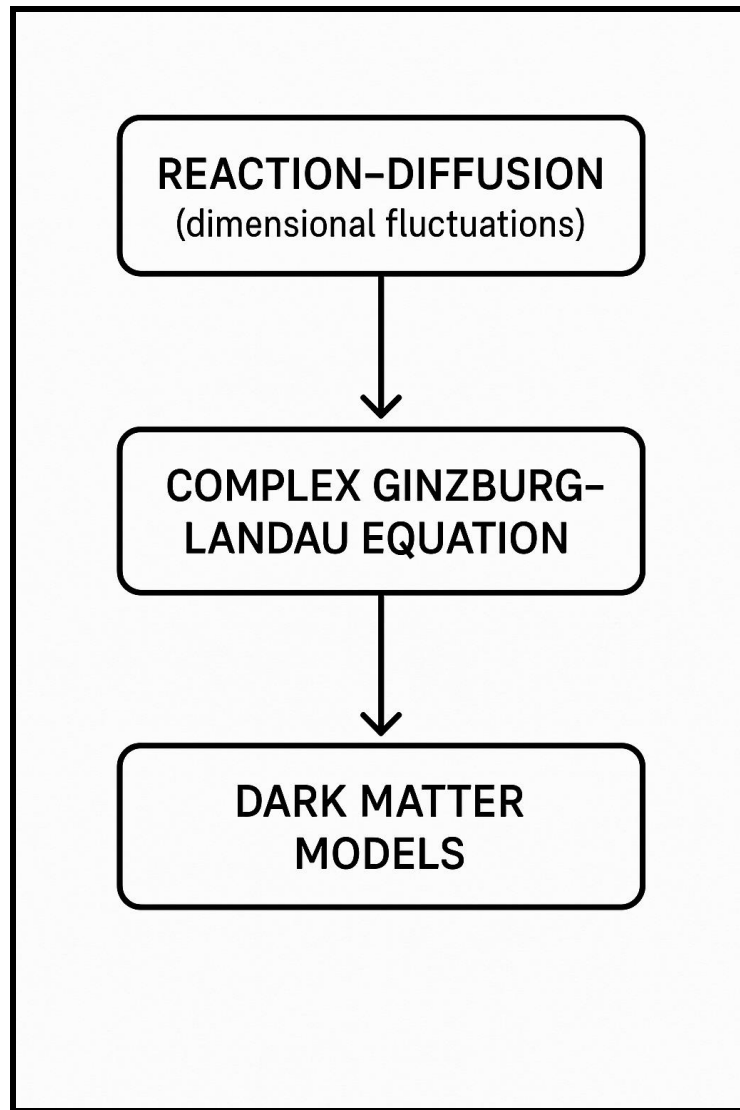


Fig. 3: From dimensional fluctuations to mainstream Dark Matter models

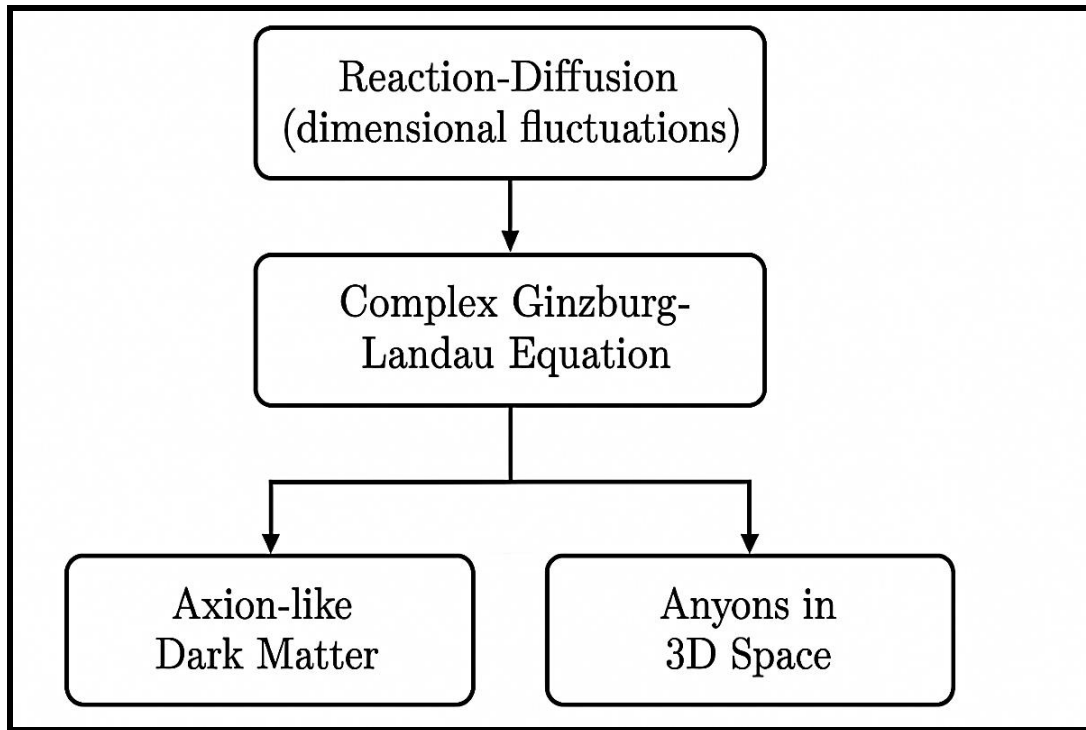


Fig. 4: From dimensional fluctuations to alternative Dark Matter models

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