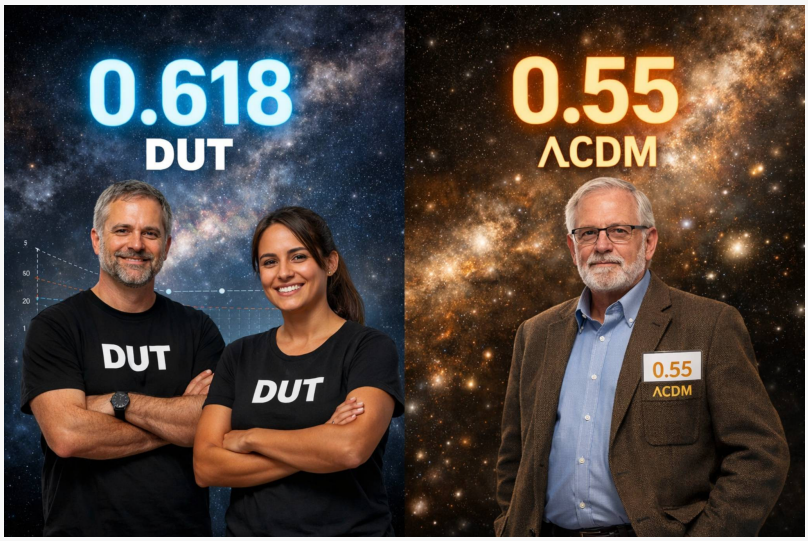
DUT-CMB Scientific Engine 3.0 (Mission-Grade): Thermodynamic Space-Time Dilatation Module for Testable Cosmology

Mission-grade cosmology software implementing thermodynamic space-time dilatation with reproducible growth predictions for next-generation surveys.



Structure growth index comparison: DUT (γ = 0.618) versus ΛCDM (γ ≈ 0.55), computed with the DUT-CMB Scientific Engine 3.0.

CURITIBA, PARANá, BRAZIL, January 26, 2026 /EINPresswire.com/ -- DUT-CMB Scientific Engine 3.0 Adds "Thermodynamic Space-Time Dilatation Module."

ExtractoDAO Labs announced the release of the DUT-CMB Scientific Engine 3.0 — Thermodynamic Space-Time Dilatation Module, a mission-grade computational module that implements a dynamical system with explicit thermodynamic corrections, RK4 integration, and standardized exports (CSV/JSON) to support transparent, cross-platform verification.

Unlike narrative-only alternative frameworks, DUT-CMB 3.0 is built to be auditable software: a self-contained source module designed for independent compilation, deterministic runs, and publication-ready outputs.

Why this matters

Over the next decade, surveys such as Euclid and NASA's Nancy Grace Roman Space Telescope will sharpen constraints on the growth of cosmic structure, weak lensing, and background expansion proxies. In that environment, theory comparison becomes less about rhetoric and more about whether a model can be reproduced, stress-tested, and falsified by code.

DUT-CMB 3.0 positions the Dead Universe Theory (DUT) as a computationally explicit hypothesis: if future high-precision datasets align with its predicted relationships—such as the coupled evolution of background dynamics and structure growth under thermodynamic retraction—the validation will be measurable and replicable. If not, the discrepancy will be equally measurable.

> This release does not claim a final cosmological solution, but delivers a mission-grade framework where thermodynamic hypotheses can be tested, reproduced, and decisively constrained by data."
>
> *Joel Almeida, ExtractoDAO Labs*

What the new module adds

Thermodynamic space-time dilatation corrections via non-minimal coupling terms and stability-aware effective equations of state

Explicit computation of structure growth observables, including fσ8(z) derived directly from the simulated background evolution

A stability-derived growth index, yielding γ = 0.618..., obtained from a thermodynamic stability condition, in contrast to the commonly adopted ΛCDM growth index γ ≈ 0.55

Publication-friendly outputs: automatic generation of dut_results.csv and standardized data products for Zenodo and journal artifacts

Open computational access via the project repository:

Pre-print: https://zenodo.org/records/18362916

CMB-DUT Code: https://github.com/ExtractoDAO/DUT-CMB-Scientific-Engine-3.0-NASA-ESA-Production-Grade

Statement (carefully framed for academic neutrality)

"DUT-CMB 3.0 is not a claim that cosmology is 'solved'—it is a claim that the hypothesis is now computationally testable, with a clear audit trail. The point is to reduce prejudice on both sides: supporters get reproducible code, skeptics get reproducible failure modes."
— ExtractoDAO Labs, Computational Cosmology & Thermodynamic Gravity

What to look for when Euclid/Roman deliver tighter constraints

The DUT approach will be evaluated most fairly where upcoming surveys improve precision:

Growth vs. background consistency, testing whether structure formation tracks background evolution without ad hoc modifications

Lensing-informed growth observables, where small systematic shifts can decisively favor or exclude entire parameter families

Cross-validated computational pipelines, with independent groups reproducing identical results from the same source code

Availability

The DUT-CMB Scientific Engine 3.0 is distributed as a plain-source computational artifact intended for academic and non-commercial research use, with explicit licensing terms embedded in the source header.

Forward-looking note

This release contains forward-looking statements about how future surveys may constrain cosmological models. Such outcomes depend on observational systematics, analysis pipelines, and independent replication.

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