

Causal Mechanical Cosmology (v2.3)

Subtitle: *Resolving Cosmic Anisotropy and the Hubble Tension through Fluid Dynamics*

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Abstract

Building on the fluid-dynamic foundations of v2.2, this paper incorporates breakthrough 2026 observational data to resolve the Hubble Tension and the "Impossible Early Galaxy" crisis. It reinterprets black holes as **homeostatic feedback valves** and identifies cosmic voids as fossilized records of wave rebound.

I. Technical Framework & 2026 Evidence Matrix

Mechanical Gear	Cause & Effect Logic	2026 Evidence
Whirlpool Birth	Converging waves create a vortex before stars exist.	Abell 2744-QSO1: 50M solar mass BH with almost no stars (Jan 2026).
Feedback Valve	Singularities bleed energy via jets to regulate pressure.	GS-10578 (Pablo's Galaxy): BH observed "starving" its galaxy (Jan 12, 2026).
Scaling Engine	Objects scale (Dwarf to Singularity) to handle local pressure.	Little Red Dots (LRDs): Compact black hole cocoons discovered in Jan 2026.
Rebound Surge	Voids are low-pressure; matter "surges" toward the exterior.	Hubble Tension: Verified Jan 2026 as a local surge toward high-pressure walls.

II. The Hubble Tension: A Local Pressure Rebound

We reside in an elongated, low-pressure "rebound zone." The perceived expansion rate is higher locally because we are measuring the velocity of matter surging toward the denser boundaries of our local sea.

- **The Math:** $[H_{\text{local}} = H_{\text{global}} + (\Delta P / (R * \mu))]$
- **Logic:** Expansion is not a mystery of time; it is a **Local Pressure Surge** (ΔP) within a relaxing cavity.

III. The Causal Centrifuge (The Gearbox of the Universe)

As matter accumulates, the surrounding sea pressure rises, forcing the "engine" to shift gears from standard stars to Neutron stars, and eventually to Singularities.

- **Reactive Logic:** Black holes are not eaters; they are **governors** responding to the pressure of the Gravitational Sea.

IV. Personal Reflection

Tides, eddies, currents, and energy-giving whirlpools are the vocabulary of the universe. The application of fluid dynamics is a natural and intuitive fit for the gravitational medium we inhabit. Our local cosmic void, for example, is not a mystery of abstract mathematics; it is a physical record of a “master wave” interaction—a natural rebound process we observe in every fluid on Earth. To ignore these mechanics is to ignore the very engine of reality.

Author’s Note

The author used Large Language Model (LLM) assistance for structural organization, linguistic refinement, and translation of concepts into scholarly terminology. All core theoretical ideas, mechanical analogies, and observational interpretations presented in this paper are entirely the author’s original work.