Eternal Cosmic Recycling Model (ECRM)

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Reference Proposal for the ACG Community and Alternative Cosmology Development

I. Conceptual Core / Philosophical Foundation

This model untangles the greatest knot of modern cosmology: the assumption that the universe must have a temporal beginning (a singularity) and that the fabric of space itself is expanding. The model restores a classical, logical, and observation-based perspective to cosmology:

Eternal Steady State: The universe is boundless but geometrically closed as a four-dimensional sphere (hypersphere).

Its largest structure, the cosmic web (galaxy filaments), has always existed and will always exist in this eternal steady state.

Absolute Time vs. Relative Space: Time is restored as a Newtonian, eternally flowing continuum it has no beginning and no end. Space, matter, and local time, on the other hand, are relative and interconnected.

Local Recycling ("The Fireworks Model"): The universe neither expands nor contracts; instead, it "boils" locally. Black holes are long term (but not eternal) material and gravitational equilibrium states. When a black hole reaches a critical mass and quantum threshold, it erupts and recycles matter back into circulation as a local big bang (a white hole). The Big Bang we observe, was merely one such local firework display within the eternal universe.

Consciousness and Life: Because the universe is eternal and there are living beings, consciousness, intelligent beings, and creative forces are a natural, built-in component of this cosmic whole.

II. Applied Mathematics and Physics / Required Physical Corrections

To transition this model from a verbal description into applied mathematics, it requires three decisive corrections to current physics:

Geometric Redshift Without Expansion (4D Metric):

Theory: The fourth dimension is not time, but a purely spatial extra dimension.

Mathematics: The redshift (z) observed from distant galaxies does not result from the stretching of space. Instead, it is derived directly as a function of the distance (r) traveled by the photon and the curvature (kappa) of the 4D sphere:

$z = f(r, \kappa)$

The Doppler effect ($z_{Doppler}$) is preserved in measurements purely as a local correction factor to describe the intrinsic motion and collisions of galaxies.

MOND Correction for Gravity (No Dark Matter):

Theory: Gravity is a real physical force (not just geometry). However, at extreme distances (galaxy edges and filaments), it does not weaken according to the traditional $1/r^2$ law, but transitions into a more linear scale.

Mathematics: The eternal stability of the cosmic web is calculated using modified dynamics (such as Milgrom's acceleration function):

$a = \sqrt{a_N * a_0}$

where a_N is the Newtonian gravitational acceleration and a_0 is the cosmic acceleration constant. This renders the hypothetical dark matter obsolete.

Electromagnetic and Plasma Dynamic Equilibrium:

Theory: Cosmic electric currents and magnetic fields (plasma physics) play a primary role alongside gravity in governing the circulation of matter.

Mathematics: The intergalactic medium is modeled using plasma potentials and the Maxwell stress tensor. This explains the Cosmic Microwave Background (CMB) as the eternal thermodynamic baseline temperature of the universe, removing the need for a Big Bang plasma phase.