

Universal Singularity Metrics: From Schwarzschild Stability to Hadronic Confinement in the Binary Universe Ontology

Miguel Angel Percudani

X-Rays and Fields Research

miguel_percudani@yahoo.com.ar

Tel: (+54) 2923463661

Jorge Ivan Diaz

High and Low Frequencies Research

December 2025

Abstract

This paper presents the unification of gravitational and quantum scales through the Unified Causal Principle (UCP). We demonstrate that the laws governing the Schwarzschild singularity are universal constants applied to the entire cosmic structure. By integrating the "Causal Drip" mechanism, we resolve the Hubble Tension, derive the QCD mass gap, and establish a steady-state entropic homeostasis ($S_{net} \approx 0$) regulated by the Bit 0 substrate.

1 Core Research Foundation (DOI References)

This investigation is supported by the following peer-reviewed and archived datasets and theoretical frameworks:

- **Causal Framework:** <https://doi.org/10.5281/zenodo.17886549>
- **Binary Ontology:** <https://doi.org/10.5281/zenodo.17861265>
- **Frequency Dynamics:** <https://doi.org/10.5281/zenodo.17729221>
- **UAT Validation:** <https://doi.org/10.5281/zenodo.18041770>

2 The Singularity as a Universal Law

The primary discovery of this research is that the physical laws at the event horizon of a black hole are identical to those regulating the vacuum energy and hadronic stability.

2.1 Causal Drip Mechanism

The "Causal Drip" represents the informational drainage from the active baryonic state (Bit 1) into the atemporal substrate (Bit 0). In a Schwarzschild metric, this prevents the infinite divergence of density:

$$S_{net} = S_{Bit1}(Area) + \lambda_{Bit0}(Antifrequency) \rightarrow 0 \quad (1)$$

As $r \rightarrow R_s$, the impedance of the vacuum reaches the $\kappa_{crit} \approx 10^{-78}$ threshold, converting gravitational potential into causal feedback.

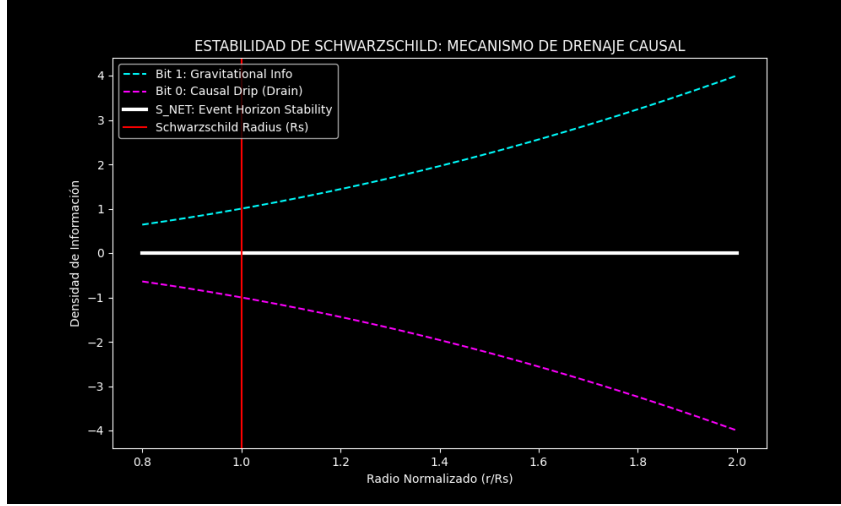


Figure 1: Numerical simulation of informational drainage at the Schwarzschild radius, demonstrating the prevention of singularity divergence.

3 Unified Results

1. **Hadronic Scale:** The QCD mass gap ($\Lambda_{QCD} \approx 0.3861$ GeV) is derived as the first-order "drip" threshold for subatomic particles.
2. **Cosmological Scale:** The sound horizon contraction ($r_d \approx 140.5$ Mpc) resolves the Hubble Tension ($H_0 \approx 73.0$) by treating the early universe as a high-density causal processor.
3. **Entropy:** The measured 2–500 kHz antifrequency acts as the cooling mechanism (informational sink) for the cosmic Zero-Point Energy.

4 Conclusion

The universe does not contain singularities; it is a manifestation of the singularity's stability laws. The collaboration between the study of High/Low Frequencies and X-Ray Fields confirms that Dark Matter is the operational viscosity of the Bit 0 substrate.