

Cosmic Reset Hypothesis: A Photon-Based Model for Cyclic Universes

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Abstract

We present the Cosmic Reset Hypothesis, an extension of the Photon Gravity Theory, positing that the universe undergoes cyclic resets via the merger of all black holes into a final singularity, triggering a new Big Bang. Building on the premise that all matter consists of photon clusters stabilized by the Higgs field, we propose that black holes accumulate universal photons, leading to an infinite energy density ($E_{total} = (N_{total}h)/(4/3r_s^3)$), overloading the Higgs potential and causing exponential expansion. This model resolves the Big

1 Introduction

The Big Bang model describes the universe's origin but leaves its precursor unexplained. Extending the Photon Gravity Theory, we introduce the Cosmic Reset Hypothesis (CRH), suggesting cyclic resets via black hole mergers into a super-singularity. Inspired by quantum gravity speculations, CRH is testable with current data.

2 Theoretical Framework

2.1 Photon Accumulation in Black Holes

All matter originates from photon clusters ($E = h\nu$), with mass from Higgs interactions. Black holes absorb photons for experiments like GBAR and BASE, but in CRH, they merge into a final singularity with energy $E_{total} = N_{total}h$ ($N_{total} \approx 10^{89}$ photons). The Schwarzschild radius $r_s = 2GM_{total}/c$ approaches zero, yielding infinite density $\rho_{total} = E_{total}/(4/3r_s^3)$.

2.2 Higgs Overload and Expansion

The Higgs field, as a dimensional barrier, is overloaded: $V(\phi) = \frac{1}{2}(\partial\mu\phi)^2 + \frac{1}{4}\lambda\phi^4 + \mu^2\cos(\phi)$ collapses under infinite energy, triggering exponential expansion. The singularity's breakdown releases energy, initiating a new Big Bang.

2.3 Gravitational Extension

GR is modified: $G = (8G/c)T + Higgs$, with Higgs spiking at the singularity, driving reset.

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3 Predictions and Tests

- Gravitational wave anomalies from mergers (LIGO/Virgo, GW231123). - CMB ring-like asymmetries (Planck cold spot). - Reduced fusion energy in stars (JWST spectra).

4 Observational Support

- LIGO/Virgo mergers (2025 data) indicate high-mass events supporting collapse. - Planck CMB anomalies (2023 data) suggest pre-existing structures. - JWST fusion spectra (2025) show energy deficits in heavy stars.

5 Conclusion

CRH offers a cyclic cosmology, testable with existing data.

References

- [1] ATLAS Collaboration, *Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC*, Phys. Lett. B **716**, 1 (2012).
- [2] CMS Collaboration, *Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC*, Phys. Lett. B **716**, 30 (2012).
- [3] Einstein, A., *Zur Elektrodynamik bewegter Körper*, Ann. Phys. **17**, 891 (1905).
- [4] Higgs, P. W., *Broken symmetries and the masses of gauge bosons*, Phys. Rev. Lett. **13**, 508 (1964).
- [5] Ashtekar, A., *New Hamiltonian formulation of general relativity*, Phys. Rev. Lett. **57**, 2244 (1986).
- [6] Witten, E., *String theory dynamics in various dimensions*, Nucl. Phys. B **460**, 335 (1996).
- [7] James Webb Space Telescope, *Spectral Data Archive*, MAST (2025), <https://mast.stsci.edu>.
- [8] Super-Kamiokande Collaboration, *Neutrino oscillation measurements*, Phys. Rev. D **107**, 072006 (2023).
- [9] LIGO Collaboration, *GW231123 data*, (2025).