

Peer Review

Review of: "Dirac's Large Number Hypothesis: An Ongoing Quest for Correlations Between the Infinitesimal and the Infinite"

Hany Akeel Al-hussaniy¹

1. University of Baghdad, Iraq

The review article "Dirac's Large Number Hypothesis: An Ongoing Quest for Correlations Between the Infinitesimal and the Infinite" provides a comprehensive and historically grounded overview of Dirac's Large Number Hypothesis and successfully integrates cosmological models, gravitational constant variability, mass creation theories, and the anthropic principle into a unified conceptual discussion. The article demonstrates strong literature coverage and theoretical breadth, making it informative for readers exploring cosmology and fundamental physics. However, the manuscript has several weaknesses, including overly narrative and philosophical writing that sometimes reduces scientific clarity, limited critical evaluation of contradictory observational evidence, and insufficient discussion of modern precision cosmology constraints (e.g., CMB, gravitational wave limits, and observational bounds on variable constants). Additionally, the review lacks a systematic methodology for literature selection and does not include quantitative synthesis or comparative theoretical evaluation between competing cosmological models. To improve the article's quality, the authors should adopt a more structured review methodology, strengthen critical analysis of empirical limitations of the hypothesis, incorporate recent observational and experimental constraints, and reduce descriptive or metaphorical language to enhance scientific rigor and clarity.

Declarations

Potential competing interests: No potential competing interests to declare.