

Hypothesis

Not peer-reviewed version

Reevaluation of CHP Hubble Parameters to Decoding AUE Universe Accelerate

[Rizwan UI Hassan](#)*, Anfal Fatima, Shah Zaib, Umar Ashraf

Posted Date: 27 November 2024

doi: 10.20944/preprints202411.2138.v1

Keywords: Dark Energy; Inflation; Accelerate Universe; Hubble Tension



Preprints.org is a free multidisciplinary platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This open access article is published under a Creative Commons CC BY 4.0 license, which permit the free download, distribution, and reuse, provided that the author and preprint are cited in any reuse.

Disclaimer/Publisher's Note: The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.

Hypothesis

Reevaluation $[\Lambda_{H_0}]_{\text{CHP}}$ Hubble Parameters to Decoding $[V_{\Lambda_{H_0}}]_{\text{AUE}}$ Universe Accelerate

Rizwan Ul Hassan ^{1,*}, Anfal Fatima ², Shahzaib ² and Umar Ashraf ⁴

- ¹ Dark Universe Community, Pakistan
- ² Department of Physics, Bahauddin zakariya University, Multan (BZU), Pakistan
- ³ Department of Electronic, Quaid e Azam University (QAU), Pakistan
- ⁴ Faculty of Engineering and Technology, University of Agriculture, Faisalabad (UAF)
- * Correspondence: Correspondence: bajwarizwan464@gmail.com

Statement: The value of the Hubble constant H_0 is deeply influenced by variations in the parameters PVEP¹, NVEP², TUP³, DUP⁴. These alteration can be quantitatively delineated through a specific terms $V^0 \pm V^{0+1} \pm V^{1+2} \pm V^{2+3} \pm \dots \pm V^{n+\infty}$. Such terms serve to clear up the domain in which fluctuations in TUP and DUP attributable to changes in density, impact the Hubble constant.

Abstract: The cosmological parameters, specifically BCP⁵ and DCP⁶, are accelerating more apace than we expected. This accelerated our understanding of its functions in covariance to expansion parameters [1]. The Hubble tension is a long-familiar question in the exploration of cosmological parameters [2][3]. The measurement of the Hubble constant (H_0), unveils a disparity in how apace the BCP and DCP [4]. Diametrical ways of measuring parameters yield various results, highlighting the realness that numerous questions in this domain remain unanswered [5][6]. This gap brings to light question regarding our existing of cosmological parameters known (Λ CDM) [7][8], and suggest the necessity of incorporating new parameter, often referred to as DPP⁷ method, to gain a understanding of accelerated universe $[V_{\Lambda_{H_0}}]$. This theory integrate a between the Hubble equation, both BCP and DCP are accelerate cosmological Hubble parameter $[\Lambda_{H_0}]$. This integration pertains to how $[\Lambda_{H_0}]_{\text{Cosmological Hubble parameters}}$ evolve across the past, present, and future dimensions. Our proposition is that both BCP and DCP influenced by stochastic variable in diametrical domain characterized by dissent magnitude of matter. The conjunctive mass term, volume term, and $[\Lambda_{H_0}]_{\text{CHP}}$ in this theory provide a new perspective on BCP, specifically DCP and Hubble Tension. This theory discusses that the reevaluation of our current understanding of BCP and DCP is necessary to integrates for this $[V_{\Lambda_{H_0}}]_{\text{Accelerate of Universe Expansion}}$ changes. This adjustment could help us understand one of the biggest mysteries in modern cosmology.

Keywords: Dark Energy, Inflation, Accelerate Universe, Hubble Tension

1. Introduction

¹ Positive volume expansion parameters ($V^0 + V^{0+1} + V^{1+2} + \dots + V^{n+\infty}$)
² Negative volume expansion parameters ($V^0 - V^{0+1} - V^{1+2} - \dots - V^{n+\infty}$)
³ Telescopic universe parameters
⁴ Dark universe parameters
⁵ Baryon Cosmological Parameter (Telescopic Universe)
⁶ Dark Cosmological Parameters (Lightless Universe)
⁷ Dark Physics Parameters

The attitude of CDP⁸ is pivotal in the study of detectable cosmological parameter. The equation that illustrates this balance parameter looks like this:

$$\rho_c = \frac{3H_0^2}{8\pi G} \quad (1)$$

The theory of the CDP illustrates a distinction between two categories of universe parameters. The first category, referred to as the CUP⁹, the second category known as the OUP¹⁰. The term “normal density” is used to refer to [9] attentiveness the underway quantity of matter latter-day in the universe.

$$P_c = \frac{m}{v} \quad (2)$$

We formally compare normal density and CDP to ascertain the value of H_0 :

$$\frac{3H^2}{8\pi G} = \frac{m}{v}$$

$$\sqrt{H_0^2} = \sqrt{\frac{8\pi Gm}{3v}}$$

The subsequent expression is indicative of a constant $\sqrt{\frac{8\pi G}{3}}$

$$H_0 = 2.364624387 \times 10^{-5} \sqrt{\frac{M}{V}}$$

We consider the volume to be integral to the expansion series $\sum V^{n \pm \infty}$, which is represented in the following form:

$$H_0 = 2.364624387 \times 10^{-5} \sqrt{\frac{M}{\sum V^{n \pm \infty}}} \quad (3)$$

If $= \sum V^{n \pm \infty}$ the universe dominate a distinct magnitude of space¹¹, within the context of cosmology, this theory intend that H_0 is not a static parameter, rather fluctuates in outcome to consequence in both BCP and DCP. As the parameter of the $[V_{\Lambda_{H_0}}]_{AUE}$; the aspect of the both attribute and mass also experience maturation, leading to stochastic variable in the $[\Lambda_{H_0}]_{CHP}$. This dynamics interplay intensify our understanding of the cosmological principles dominant the $[\Lambda_{H_0}]_{CHP}$.

Hubble equation:

$$H_0 = \frac{V}{d}$$

$$2.364624387 \times 10^{-5} \sqrt{\frac{M}{\sum V^{n \pm \infty}}} = \frac{V}{d}$$

$$V_{\Lambda_{H_0}} = 2.364624387 \times 10^{-5} \sqrt{\frac{M}{\sum V^{n \pm \infty}}} \times d$$

$$V_{\Lambda_{H_0}} = \Lambda_{H_0} \times d$$

The final equation pertaining to the acceleration of the universe:

$$V_{\Lambda_{H_0}} \propto d \quad (4)$$

Where;

⁸ Critical density Parameter (Friedmann Equation)

⁹ Close Universe Parameters

¹⁰ Open Universe Parameters

¹¹ Characterized as either a closed parameter indicating that it eventually curves back on itself or a flat parameter, suggesting that it extends infinitely without curvature.

$[A_{H_0}]_{\text{CHP}}$ is a constant parameters that approximately; $2.3646 \times 10^{-5} \sqrt{\frac{m}{\sum V^{n \pm \infty}}}$, M denotes the mass of body, and V refer to the volume associated with the expansion of parameters. In the terms of the expansion series, the volume parameter open up two distinct series; one represents the quantity terms associated with PVEP and the other pertaining to NVEP quantity term. $V^0 \pm V^{0+1} \pm V^{1+2} \pm \dots \pm V^{n+\infty}$. To begin it is advisable to set up symbolical volume for each term within the series; $V^0 = 1, V^{0+1} = 10, V^{1+2} = 100, V^{2+3} = 1000$, $[V_{A_{H_0}}^{\text{Positive}}]$ encompasses the aspects of contraction, while $[V_{A_{H_0}}^{\text{Negative}}]$ address the inference of accelerate.

2. Conclusions

In this theory, calculate the relationship between the BCP and DCP ranges and the $[V_{A_{H_0}}]_{\text{AUE}}$. This theory's recommendation sets that utilizing a particular methodology to calculate $[A_{H_0}]_{\text{CHP}}$, this theory indicate that a higher $[A_{H_0}]_{\text{CHP}}$ correlates with lower overall compactness in an accelerated universe, which theory allude to as a "continual" $[A_{H_0}]_{\text{CHP}}$. However, the existing challenges associated with the BCP and DCP and Hubble tension constrain this shift.

This theory posits that there exists a particular working parameters that in a perfect field serves to minimize the proposition of extra obscure parameters. This theory analysis encompasses a comprehensive exploration of all conceivable mechanism by which the universe accelerates at an elevate pace. Theory utilizes an expression that epitomizes this concept, including a grouping of term $[V_{A_{H_0}}^{\text{Positive}}]$ and $[V_{A_{H_0}}^{\text{Negative}}]$ that work as free variables parameter.

There are inalienable parameters within data or red-shift impacts that influence some of the result. Specifically, red-sift pertains to the methods utilize to degree the DCP. A eminent thought is that the accelerating expansion of the universe can affect the parameters to measure over different separate. Should the observed patterns not be attributable to the current parameters or specific effects, it prudent to consider alternative theories, such as modification to the Hubble equation, to crystallize the observations. The existing parameters do not appear to completely account for the drift in H_0 , theory proposing the plausibility new type of $[A_{H_0}]_{\text{CHP}}$. This parameter could differ significantly for those outlined in the standard model. This phenomena indicates the need of study diametrical cosmological parameters to pick up a clear understanding of this unforeseen observation.

This concept sets that calculation $[A_{H_0}]_{\text{CHP}}$ offer valuable insights into addressing the current tension associated with BCP, DCP and $[V_{A_{H_0}}]_{\text{AUE}}$ matrix. Whereas this approach showed up promising, it is essential to recognize that it cannot serves as a conclusive structure, Numerous perceptible and theoretical parameters necessitate ongoing exploration. This theory understanding of the interplay between the early and late universe acceleration remains incomplete. This theory building up these link could yield significant advancements in the development of new theoretical equation. This hypothesis continued research is critical to achieve a coherent interpretation of later infinite parameters, which ultimately deepen our understanding of the puzzling nature of the DCP and the accelerated expansion of the universe.

Author Contributions: Rizwan Ul Hassan developed the ideas. Rizwan also worked on creating equations, collecting data, and writing the code in MATLAB. He wrote the first draft of the paper. Anfal Fatima helped with formatting the paper, managing citations, and co-writing. Shahzaib edited the manuscript and fixed any mistakes. Umar Ashraf reviewed the manuscript. All authors have read and agreed on the final version of the paper.

Funding: This research received no external funding

Data Availability Statement: This theoretical theory does not use data from specific observations. Instead, the results are based on careful thinking and models created using current ideas about the universe. No outside data are used or designed for this research. If you would like more information about the calculations and results, you can ask the main author.

Acknowledgments: I want to say a big thank you to Dr Fayyaz Ahmad and Dr Irfan Toqeer for all their help and support while, I worked on this theory. Their advice and help were very important in developing this research and helped me better understand cosmic events.

Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A. Mathematical Formulation of Universe Accelerate:

$$V_{\Lambda_{H_0}} = 2.364624387 \times 10^{-5} \sqrt{\frac{M}{\sum V^{n \pm \infty}}} \times d$$

$$V_{\Lambda_{H_0}} = \Lambda_{H_0} \times d$$

The " $V_{\Lambda_{H_0}}$ " is the universe accelerate represents how fast the universe is expanding and "d" for the distance the universe has expanded, "M" the amount of magnitude(mass) in the universe, " Λ_{H_0} " Hubble accelerate parameter describe how quickly this expansion is happening and " V^n " represents a specific nth in a series that helps explain the volume of the universe as it grow.

Volume Expansion Series:

$$V^0 \pm V^{0+1} \pm V^{1+2} \pm \dots \dots \dots \pm V^{n+\infty}$$

Appendix B. Abbreviation

$V_{\Lambda_{H_0}}$ = Velocity of Universe Expansion(Red-Shift)

$$\Lambda_{H_0} = 2.364624387 \times 10^{-5} \sqrt{\frac{M}{\sum V^{n \pm \infty}}}$$

d = Distance of Expansion Universe

References

1. Turner, M.S., The dark side of the universe: from Zwicky to accelerated expansion. *Physics Reports*, 2000. **333**: p. 619-635.
2. Krishnan, C., et al., *Sheikh-Jabbari and T. Yang*. *Phys. Rev. D*, 2020. **102**(103525): p. 2002.06044.
3. Coles, P. and G.F.R. Ellis, Is the universe open or closed?: The density of matter in the universe. 1997: Cambridge University Press.
4. Aloni, D., et al., *A step in understanding the Hubble tension*. *Physical Review D*, 2022. **105**(12): p. 123516.
5. Di Valentino, E., et al., *In the realm of the Hubble tension—a review of solutions*. *Classical and Quantum Gravity*, 2021. **38**(15): p. 153001.
6. Giarè, W., Inflation, the Hubble tension, and early dark energy: An alternative overview. *Physical Review D*, 2024. **109**(12): p. 123545.
7. Niedermann, F. and M.S. Sloth, *Resolving the Hubble tension with new early dark energy*. *Physical Review D*, 2020. **102**(6): p. 063527.
8. Tritton, D.J., *Physical fluid dynamics*. 2012: Springer Science & Business Media.
9. Dainotti, M., et al., *The Hubble constant tension: current status and future perspectives through new cosmological probes*. arXiv preprint arXiv:2301.10572, 2023

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.