# Critique of Reference [3]: Unsubstantiated Rejection of \( \dot{G}/G \) Variation

## 1. Introduction

Reference [3] attempts to reject the possibility of a variation in Newton’s gravitational constant (\( G \)) by asserting that there is no evidence for a local expansion of the solar system. However, this rejection is based solely on an unverified statement rather than empirical data. This critique outlines why this approach is insufficient and why a proper evaluation of \( \dot{G}/G \) requires a more rigorous analysis.

## 2. Flawed Refutation of Ġ/G Variation

The key statement used to dismiss Ġ/G variation in Reference [3] is:  
  
"There is no evidence for such local (~1 AU) scale expansion of the solar system."  
  
This statement is problematic for several reasons:

## 3. Lack of Empirical Refutation

The rejection of \( \dot{G}/G \) variation is not based on observational data or quantitative analysis but is instead a simple assertion. No supporting evidence is provided to demonstrate that no variation in G has occurred. A proper refutation should include:

- A precise measurement of planetary orbits over long periods.- A comparison between modeled and observed orbital changes.  
- A demonstration that no secular variation in \( G \) is required to fit the data.

## 4. Misrepresentation of the Expected Effect

The paper incorrectly assumes that the effect of Ġ/G variation would be equivalent to a local expansion of the solar system. However, G variation is a fundamental cosmological change that affects all gravitationally bound systems. Even if no significant local expansion is observed, this does not necessarily imply that G is constant.

## 5. Circular Reasoning in the Paper

The rejection of Ġ/G relies on the assumption that no variation in G exists. However, this assumption is then used to dismiss the need for further investigation. A scientific refutation should be based on evidence rather than on a self-referential claim.

## 6. Conclusion

The dismissal of Ġ/G variation in Reference [3] is based on a single unverified statement rather than a rigorous analysis. A valid refutation would require detailed observational constraints and a demonstration that the measured planetary orbits do not require a variation in G. The assertion that "there is no evidence" is not a scientific argument but rather an assumption. Future studies should focus on obtaining precise orbital data to properly assess the possibility of Ġ/G variation.