Review of "The 'Reactionless' Electric Universe"

Overview

The work titled "The 'Reactionless' Electric Universe" by Bryan Strohm challenges conventional astrophysical models that primarily attribute cosmic interactions to gravitational forces. Instead, it introduces an electrical framework, proposing that electric and magnetic fields are the primary drivers of cosmic dynamics. The article questions longstanding physical laws, particularly gravity, suggesting that electromagnetism provides a more comprehensive explanation for planetary and stellar phenomena. The paper touches on controversial ideas such as the absence of traditional gravitational forces in the architecture of galaxies and solar systems, while also exploring concepts like reactionless drives and electrodynamic systems. The underlying assumptions include a significant reinterpretation of classical mechanics through the lens of electromagnetic interactions.

Relevant References

Including a clear literature review helps reviewers quickly see what's new and why it matters, which can speed up the review and improve acceptance chances. The following references were selected because they relate closely to the topics and ideas in your submission. They may provide helpful context, illustrate similar methods, or point to recent developments that can strengthen how your work is positioned within the existing literature.

1. Yarel, Alon. “Modern Physics and Nuclear Physics 2019: Discovery of the Origin of the Universe, Discovery the Source of the Sun???s Formation - Alon Yarel - Alien-

Science Association of Astronomy Org.il Research Company." Journal of Lasers, Optics & Photonics, OMICS Publishing Group, 2020, https://www.hilarispublisher.com/open-access/modern-physics--nuclear-physics-2019-discovery-of-the-origin-of-the-universe-discovery-the-source-of-the-suns-formation-.pdf.

2. Parker, E. N. "Reminiscing My Sixty Year Pursuit of the Physics of the Sun and the Galaxy." Research in Astronomy and Astrophysics, IOP Publishing, 2013, doi:10.1088/1674-4527/14/1/001.

3. Smulsky, Joseph J. New Understanding in Physics and Astronomy. 2023, doi:10.9734/bpi/mono/978-81-967401-5-3.

4. Barnes, Luke A., and Geraint F. Lewis. The Cosmic Revolutionary's Handbook. 2019, doi:10.1017/9781108762090.

5. Schechter, Bruce. "Reports on Subfields of Physics: Gravitation, Cosmology and Cosmic-Ray Physics." Physics Today, AIP Publishing, 1986, doi:10.1063/1.881022.

6. Giertz, Hans W. "Astrophysics Based on the Laws of Electromagnetism." ViXra, 2013, https://vixra.org/pdf/1303.0140v1.pdf.

7. Garfinkle, David. "Matters of Gravity, The Newsletter of the Topical Group on Gravitation of the American Physical Society, Volume 37, Winter 2011." ArXiv (Cornell University), Cornell University, 2011, https://arxiv.org/pdf/1102.5546v1.

8. Chandler, Charles L. “Astrophysics Wants Its Physics Back.” ViXra, 2014, https://vixra.org/pdf/1401.0067v1.pdf.

9. Pham, Bruce Thai, and Ann Hornschemeier Cardiff. Physics of the Cosmos Program Annual Technology Report. 2015, https://ntrs.nasa.gov/api/citations/20160011974/downloads/20160011974.pdf.

10. Garfinkle, David. “Matters of Gravity, The Newsletter of the Topical Group on Gravitation of the American Physical Society, Volume 35, Winter 2010.” ArXiv (Cornell University), Cornell University, 2010, https://arxiv.org/abs/1002.1397.

Strengths

The article's boldness in challenging conventional theories is commendable, as it encourages readers to question and re-evaluate long-held assumptions about cosmological dynamics. The author demonstrates a willingness to explore alternative perspectives and provides original hypotheses about the electromagnetic interactions in cosmic systems. The work is innovative in suggesting that field interactions at the atomic level scale up to explain complex astronomical phenomena, potentially leading to fresh insights and new research directions in physics and astronomy. Additionally, the connections drawn between motion dynamics and electromagnetic fields could open up discussions on new technologies and energy systems.

Major Comments

Methodology

There is a lack of empirical evidence or mathematical rigor to substantiate the claims made in the article. To strengthen the

argument, the author should provide quantitative data, simulations, or experiments that align with the proposed theories. The introduction of concepts such as reactionless drives or alternate gravity explanations requires a robust scientific framework to be credible within the academic community.

Framing

The paper challenges the theory of gravitation without providing a comprehensive alternative model that is accessible and acceptable to the broader scientific audience. While the electrical interpretation of cosmic phenomena is intriguing, it needs to be framed within the context of existing research and theories. This would situate the work better within the larger body of astrophysical literature.

Clarity and Validity

Several claims, such as those regarding the nature of static cling as an argument against gravity, require clarification and validation. These claims, while provocative, can be misinterpreted or dismissed without a clearer explanation of their scientific basis and implications. The author should focus on clarifying how these observations align with known physical laws or if they necessitate a fundamental rethinking of such laws.

Minor Comments

Terminology

The use of phrases like "structured relativism" and "reactionless events" appear without sufficient definition or context. A clear glossary or section that defines these terms would enhance the reader’s comprehension and engagement. Furthermore, ensuring

consistent terminology throughout the paper would help maintain cohesiveness.

Presentation and Organization

The article would benefit from a more structured presentation with clearly defined sections, including an introduction, methodology, discussion, and conclusion. This organization would aid in guiding the reader through complex arguments and highlight the primary claims and contributions more effectively.

Reviewer Commentary

The article's exploration of electromagnetic fields as dominant cosmic forces raises thought-provoking questions about the foundations of astrophysics and cosmology. It prompts reconsideration of even the most fundamental scientific paradigms, which could lead to fruitful interdisciplinary dialogue across physics, engineering, and space sciences. Ethical and philosophical considerations regarding the nature of scientific truth and consensus are implicit in the work's challenge to established theories.

Summary Assessment

Overall, "The 'Reactionless' Electric Universe" serves as an intriguing piece that challenges conventional scientific narratives with its exploration of electromagnetism as a fundamental force in cosmic phenomena. The paper significantly contributes to academic discourse by encouraging critical thinking and challenging established notions of gravity and astrophysics. While the work presents radical ideas that may not currently align with mainstream scientific paradigms, they have the potential to

engender innovative research directions if coupled with rigorous scientific methods and empirical validation.

In closing, the work by Bryan Strohm invites scholars to engage deeply with novel ideas, and, should these become substantiated through further research, they may contribute significantly to our understanding of the universe.

"I received very helpful feedback on a paper I'm working on. My paper is stronger now. And it was free."

Faculty member
United States