

Review Form 1.7

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| Journal Name: | International Astronomy and Astrophysics Research Journal |
| Manuscript Number: | Ms_IAARJ_110297 |
| Title of the Manuscript: | BARYON SYMMETRY AND THE LEAD OF ANTIMATTER OVER MATTER IN A STRESS-FREE UNIVERSE |
| Type of the Article | Original Research Article |

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PART 1: Review Comments

| | Reviewer's comment | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
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| <p>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community?</p> <p>2. Is the title of the article suitable?</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> | <p>1 - Yes, as it presents a new idea for a topic that is still open. What goes almost unnoticed is the idea of associating cosmic inflation with the generation of matter and antimatter. This, if better explored, could lead to interesting results, such as initial temperature at the beginning of the universe.</p> <p>2 - It seems that there is an error in the title, the correct one should be like this: BARYON SYMMETRY AND THE LEAD OF MATTER OVER ANTIMATTER IN A STRESS-FREE UNIVERSE</p> <p>And so, it explains the idea a little better: BARYON ASYMMETRY IN TIME: THE LEAD OF MATTER OVER ANTIMATTER IN A STRESS-FREE UNIVERSE</p> <p>3 - Yes</p> <p>4 – Yes. The conclusion is very vague and does not make it clear that the proposed idea is a possible answer to the enigma of antimatter (where did the antimatter go? or why does there not exist antimatter in the universe today?)</p> <p>5 -Yes</p> <p>6 - A reference could be included to introduce the antimatter theme[1] [2] and introducing the problem of the antimatter enigma[3]. and another reference indicating what is the currently accepted answer [4] to this enigma and what problems exist in this proposal that led to the search for other alternatives. When talk about cosmic inflation is good to cite the origin of inflation field idea [5]:</p> <p>[1] Dirac, P. A. M. (1930). "A theory of electrons and protons." Proceedings of the Royal Society of London. Series A, Mathematical and Physical Sciences, 126(801), 360-365.</p> <p>[2] Griffiths, D. J. (1987). "Introduction to Elementary Particles." Wiley-VCH.</p> <p>[3] Thomson, M. (2013). "Modern Particle Physics." Cambridge University Press.</p> <p>[4] Sakharov, A. D. (1967). "Violation of CP Invariance, C Asymmetry, and Baryon Asymmetry of the Universe." Soviet Physics Uspekhi, 34(5), 392-393.</p> <p>[5] Guth, Alan H. (1981). "Inflationary universe: A possible solution to the horizon and flatness problems". Physical Review D. 23 (2): 347–356.</p> | |
| <p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p> | <p>Yes</p> | |
| <p>Optional/General comments</p> | <p>The association of cosmic inflation with the creation of matter and antimatter is also an interesting idea and if better explored could lead to the idea of a "cold" beginning for the universe (as opposed to the super hot universe of the Big Bang) with the energy of cosmic inflation being used to create matter and antimatter...</p> | |

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| | <p>The article is interesting and brings an original idea that, despite the rate of creation of matter and antimatter being equal, the explanation that there is less antimatter in the universe, could be associated with a rate of annihilation of antimatter that is different in time. the rate of annihilation of matter. This could then explain why the reverse is made of matter....</p> <p>The math is consistent and the idea is interesting. There is only one question: In principle, the annihilation of antimatter must occur when it comes into contact with matter. And so, the rate of annihilation should also be the same and at the same rate in time....</p> <p>So I believe that this is a limitation on the idea, but it also does not make it invalid. Perhaps this aspect of the annihilation of antimatter, "alone" (without contact with matter) should be better explained in the article.</p> <p>Introducing the problem better. better clarifying the idea of annihilation of antimatter, separated from matter and improving the conclusion.</p> | |
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PART 2:

| | Reviewer's comment | Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i> |
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| Are there ethical issues in this manuscript? | <i>(If yes, Kindly please write down the ethical issues here in details)</i> | |

Reviewer Details:

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