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| Book Name: | [**Current Research Progress in Physical Science**](https://www.bookpi.org/bookstore/product/current-research-progress-in-physical-science-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4477** |
| Title of the Manuscript:  | **Anisotropic Generalization of the ΛCDM Universe Model with Application to the Hubble Tension** |
| Type of the Article | **Book Chapter** |

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| PART 1: Comments |
|  | Reviewer’s comment**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript tackles a noteworthy extension of the standard ΛCDM cosmology by exploring Bianchi Type I anisotropies. Anisotropy in cosmic expansion is an area of active research, particularly in the context of the “Hubble tension.” The author provides new analytic insights into whether anisotropy could help reconcile the different measurements of H0​. Such results are of interest to both theoretical cosmologists and observational astronomers who wish to test extensions of the standard model. Overall, the study aims to enhance our understanding of how small deviations from isotropy might, or might not, affect key cosmological parameters. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | The current title, “Anisotropic Generalization of the ΛCDM Universe Model with Application to the Hubble Tension,” is clear and accurately describes the core topic. I believe it is sufficiently specific and does not need changing. |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The abstract does a good job of stating the goals (like, presenting exact Bianchi Type I solutions and testing them against the Hubble tension) and the key result (that anisotropy is too small to solve the tension). It might be beneficial to add a brief mention of the observational constraints, especially from nucleosynthesis and CMB data, early in the abstract, just to underscore why the parameter range for anisotropy is so limited. Otherwise, the abstract is concise and appropriately detailed. |  |
| **Is the manuscript scientifically, correct? Please write here.**  | The derivations of the Bianchi Type I field equations appear standard, and the discussion of solutions for dust plus vacuum energy is thorough. The logic tying anisotropy constraints to the Hubble tension is carefully laid out. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | The references are up-to-date, including important works on the Hubble tension and on Bianchi Type I models. I see no pressing omissions, though the author may wish to cross-check whether additional recent Planck- or JWST-related Hubble measurements should be cited for completeness. |  |
| Is the language/English quality of the article suitable for scholarly communications? | The manuscript is generally well written and clear. The English is of high quality and does not interfere with comprehension. |  |
| Optional/General comments |  |  |

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| **PART 2:**  |
|  | **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)* |
| **Are there ethical issues in this manuscript?**  | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** |
| Name: | **Jesse Daniel Brown** |
| Department, University & Country | **Armstrong Atlantic State University, USA** |