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| Journal Name: | [**Asian Journal of Mathematics and Computer Research**](https://www.ikprress.org/index.php/AJOMCOR) |
| Manuscript Number: | **Ms\_AJOMCOR\_13191** |
| Title of the Manuscript: | **SOME IMPORTANT CHARACTERIZATIONS ACCORDING TO THE TACHIBANA OPERATOR FOR INVARIANT SUBMANIFOLDS OF A LORENTZIAN β-KENMOTSU MANIFOLD** |
| Type of the Article |  |

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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** (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.** | The manuscript presents a study on invariant submanifolds of Lorentzian β-Kenmotsu manifolds using the Tachibana operator. The exploration of these mathematical structures is significant for the scientific community, particularly in the fields of differential geometry and theoretical physics. The findings contribute to a deeper understanding of the geometric properties of manifolds, which can have implications in various applications, including general relativity. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The title is suitable as it accurately reflects the content of the manuscript. However, a more descriptive title could be "**Characterizations of Invariant Submanifolds in Lorentzian β-Kenmotsu Manifolds via the Tachibana Operator**" to emphasize the focus on invariant submanifolds. |  |
| **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 is generally comprehensive but could benefit from the addition of specific examples or applications of the findings. Including a brief mention of the implications of the results in physical contexts would enhance its clarity and relevance. |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript appears to be scientifically correct based on the provided contexts. The definitions and characterizations discussed align with established concepts in differential geometry and Lorentzian manifolds. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | The references should be evaluated for their recency and relevance. While the manuscript includes foundational works, the addition of more studies, such as the paper by Srivastava and Srivastava (2016) titled "On a Class of α-Para Kenmotsu Manifolds" published in the Mediterranean Journal of Mathematics (DOI: 10.1007/s00009-014-0496-9), and paper by Mert, Tuğba, and Mehmet Atçeken titled *'A note on pseudoparallel submanifolds of Lorentzian para-Kenmotsu manifolds,'* published in *Filomat*, 37(15), 2023, pp. 5095–5107, would strengthen the literature review and provide a broader context for the findings. |  |
| **Is the language/English quality of the article suitable for scholarly communications?** | The language and English quality of the article are generally suitable for scholarly communication. However, addressing the typographical errors and ensuring clarity in complex mathematical expressions will improve the overall readability of the manuscript. |  |
| **Optional/General** comments | There are several typographical errors that need correction, such as "total geodesic" should be replaced with "totally geodesic."  To enhance the manuscript's clarity and applicability, it would be beneficial to include physical examples. The authors can refer to the paper for insights on relevant examples. |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s Feedback** (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 detail)* |  |

**Reviewer details:**

**S. K. Srivastava, Central University of Himachal Pradesh, India**