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| Journal Name: | **Asian Journal of Research and Reviews in Physics** |
| Manuscript Number: | **Ms\_AJR2P\_128439** |
| Title of the Manuscript: | **SEASONAL AND ANNUAL VARIATIONS OF SOLAR QUIET OF THE HORIZONTAL MAGNETIC FIELD ALONG THE AFRICAN GEOMAGNETIC EQUATOR DURING THE ASCENDING PHASE OF SOLAR CYCLE 24** |

PART 1: Comments

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|  | **Reviewer’s comment** | **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 is significant for the scientific community as it provides valuable insights into the seasonal variations of the solar quiet (Sq) magnetic field, particularly in the equatorial regions of Africa. By analyzing geomagnetic data from multiple stations over a defined period, the study enhances the understanding of how solar activity influences geomagnetic variations. The methodology employed, including the classification of quiet times and the calculation of the H-component, offers a robust framework for future research in geomagnetism and space weather. The findings regarding the longitudinal differences in SqH values contribute to the broader discourse on geomagnetic field dynamics and their implications for ionospheric behavior. Additionally, the manuscript underscores the importance of regional studies in understanding global geomagnetic phenomena, which can aid in improving predictive models for space weather events. Overall, this research enriches the existing body of knowledge and serves as a reference point for further investigations into geomagnetic variations and their environmental impacts. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | The title of the article is suitable. |  |
| **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 of the article appears to provide a detailed overview of the study's objectives, methodology, and findings regarding the seasonal variation of solar quiet (Sq) in the equatorial region. It mentions the use of geomagnetic field measurements, the analysis of data from various observatories, and the significance of the findings in relation to previous research.However, to enhance comprehensiveness, it may be beneficial to include a brief statement about the implications of the findings for practical applications, such as their relevance to radio communication or space event planning. Additionally, summarizing the key results or specific numerical findings could provide readers with a clearer understanding of the study's contributions. Overall, while the abstract is informative, these additions could improve its clarity and impact. |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript appears to be scientifically correct based on the context provided. It discusses the methodology for analyzing geomagnetic field variations, specifically focusing on solar quiet (Sq) variations. The use of equations to correct for non-cyclic variations and the classification of quiet times based on specific Kp and Dst values are appropriate methods in geomagnetic studies. Additionally, the grouping of months into seasons for seasonal variation analysis aligns with standard practices in atmospheric and geophysical research. The references cited provide a solid foundation for the methodologies employed, and the use of MATLAB for data analysis is a common and effective approach in such studies. Overall, themanuscript demonstrates a coherent and scientifically valid approach to investigating geomagnetic variations. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | The references provided in the context include a mix of older and more recent studies, with some dating back to the 1950s and others as recent as 2021. While the inclusion of historical references can be valuable for understanding the evolution of research in the field, the overall recency of the references could be improved.To enhance the relevance and timeliness of the references, it would be beneficial to include more recent studies from the last few years that focus on geomagnetic field variations, solar quiet (Sq) phenomena, and the equatorial electrojet, particularly those published after 2021. Additionally, including references that address advancements in measurement techniques or new findings related to the impacts of solar activity on geomagnetic variations would provide a more comprehensive understanding of the current state of research.Suggestions for additional references could include recent articles from journals specializing in geophysics, atmospheric science, or space weather, as well as conference proceedings that may highlight cutting-edge research in these areas. |  |

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| **Is the language/English quality of the article suitable for scholarly communications?** | The language quality of the article appears to be suitable for scholarly communication. The text is structured logically, with clear sections for context, results, and discussions. It uses technical terminology appropriately and provides references to previous research, which is a common practice in academic writing. |  |
| **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: | **Arvind Dubey** |
| Department, University & Country | **Seva Sadan College, India** |