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REVIEWER'S REPORT

Manuscript No.: IJAR-55597

Title: ANALYSE DES PERFORMANCES OPTIMALES D\'UN SÉCHOIR SOLAIRE À KANKAN EN RÉPUBLIQUE DE GUINÉE: ÉVALUATION DES PARAMÈTRES ASTRONOMIQUES ET COORDONNÉES SOLAIRES POUR UN SÉCHAGE NATUREL EFFICACE.

Recommendation:

Accept as it is ....

Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance	✓			

Reviewer Name: Mr. Bilal Mir

Reviewer's Comment for Publication.

The manuscript presents a **rigorous and well-structured analysis** of the optimization of a natural convection solar dryer located in Kankan, Guinea, through the explicit evaluation of astronomical parameters and solar coordinates. The topic is **highly relevant** for renewable energy applications and food preservation in tropical regions, particularly in West Africa, where solar drying plays a key socio-economic role.

Major strengths of the manuscript include:

- A **solid theoretical framework** based on well-established solar geometry and astronomical models.
- Detailed and coherent **methodological development**, including declination, hour angle, solar height, azimuth, and equation of time.
- A **comparative assessment of equation-of-time models**, supported by statistical validation (R^2), which enhances methodological robustness.
- Strong **contextualization within the climatic and geographical conditions of Kankan**, increasing the applicability of the results.
- Comprehensive referencing of relevant and up-to-date scientific literature.

Minor revisions are nevertheless recommended:

1. **Language and Typographical Corrections:**
   Although the manuscript is generally clear, it contains several typographical errors, spacing issues, symbol inconsistencies, and minor grammatical inaccuracies (e.g.,

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duplicated words, missing accents, formatting of equations and tables). A careful linguistic and editorial revision is required.

2. **Equation and Symbol Consistency:**
   Some symbols (Γ, ω, h, z, a) should be consistently formatted and clearly distinguished between annual and daily hour angles to avoid potential confusion.
3. **Table and Figure Referencing:**
   Table numbering should be carefully checked (e.g., multiple references to "Tableau 3") to ensure consistency throughout the manuscript.
4. **Practical Implications:**
   While the theoretical analysis is strong, the manuscript would benefit from a short subsection explicitly linking the astronomical results to **design recommendations** (orientation, tilt angle, operational schedule) for solar dryer implementation.
5. **Conclusion Enhancement:**
   The conclusion is relevant but could be strengthened by clearly stating the **original contribution**, limitations of the study, and perspectives for future experimental validation.

Overall, the manuscript constitutes a **valuable scientific contribution** to the optimization of solar drying systems under tropical climatic conditions. After addressing the **minor revisions** indicated above, the paper will be suitable for publication.