

### Review Form 3

Journal Name:	<a href="#">Asian Journal of Physical and Chemical Sciences</a>
Manuscript Number:	Ms_AJOPACS_127516
Title of the Manuscript:	Performance evaluation of a hight-pass finned air collector: Numerical and experimental investigation
Type of the Article	

#### General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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#### Important Policies Regarding Peer Review

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#### PART 1: Review Comments

Compulsory REVISION comments	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)
<b>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</b>	This manuscript explores a significant topic related to solar energy applications. The performance enhancement of solar air collectors through innovative designs like finned absorbers is critical for improving the efficiency of renewable energy systems. The experimental and numerical approach provides valuable insights for advancing solar drying technologies. This study is especially relevant for regions with abundant solar resources, offering practical implications for agriculture and other drying applications.	
<b>Is the title of the article suitable? (If not please suggest an alternative title)</b>	The title of the article, "Performance evaluation of a high-pass finned air collector: Numerical and experimental investigation," is suitable and clearly reflects the content of the manuscript. However, it could be more concise by removing "high-pass," as it is not a common term in solar air collector literature. A more straightforward title like "Performance Evaluation of a Finned Solar Air Collector: Numerical and Experimental Investigation" would suffice.	
<b>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.</b>	<p>The abstract provides a concise summary of the study, but the language could be refined for better readability. For example:</p> <ul style="list-style-type: none"> <li>• Replace "temporal the variations" with "temporal variations."</li> <li>• Include a sentence summarizing the key contribution to the field or comparing this work with prior studies.</li> </ul> <p>The abstract provides a good overview of the study's objectives, methodology, and key findings. However, it could benefit from a more explicit mention of the efficiency improvements and a brief comparison to previous studies for context. I recommend adding a sentence or two on how the results of this study compare to existing solar air collectors in terms of efficiency or thermal performance.</p>	
<b>Are subsections and structure of the manuscript appropriate?</b>	The manuscript is well-structured, with logical subsections that guide the reader. However, the "Mathematical Formulation" section could be condensed or supplemented with illustrative diagrams for better comprehension.	
<b>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</b>	The manuscript appears scientifically correct. The approach taken—combining experimental data with numerical modeling—is sound, and the methods used for performance evaluation are appropriate. The assumptions made in the mathematical model are clearly stated, and the comparison between theoretical and experimental results is well-executed. The study successfully demonstrates that adding fins to the absorber plate improves heat transfer efficiency, which aligns with existing literature on solar collector designs.	

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<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p> <p>=</p>	<p>The references are sufficient and relevant, but some are slightly outdated. Consider including more recent studies on solar air collectors, particularly those published within the last five years. Suggested addition:</p> <ul style="list-style-type: none"> <li>[Kumar, A., et al. (2020). Advances in solar air collector systems for thermal applications. Renewable Energy Journal.]</li> </ul> <p>The references are sufficient, and several recent studies are cited. However, it would be beneficial to add references that discuss the latest advancements in solar collector materials or alternative designs that might further enhance the performance of the proposed system. For instance, studies such as those by Aissaoui et al. (2016) on the thermal performance of flat plate solar air collectors, Aissaoui et al. (2017) focusing on solar collectors with fins and baffles, and Belloufi et al. (2023) on double pass solar air collectors provide valuable insights into various ways of optimizing solar collector efficiency. These works, which combine numerical and experimental approaches, demonstrate how surface modifications and innovative designs can significantly improve energy performance and heat transfer in solar air collectors. Including these studies will provide a more comprehensive understanding of the current trends in solar collector research and strengthen the context for your proposed system.</p> <ul style="list-style-type: none"> <li>Aissaoui, F., Benmachiche, A. H., Brima, A., Bahloul, D., &amp; Belloufi, Y. (2016). Experimental and theoretical analysis on thermal performance of the flat plate solar air collector. <i>International Journal of Heat and Technology</i>, 34(2), 213-220.</li> <li>Aissaoui, F., Benmachiche, A. H., Brima, A., Belloufi, Y., &amp; Belkhiri, M. (2017). Numerical study on thermal performance of a solar air collector with fins and baffles attached over the absorber plate. <i>International Journal of Heat and Technology</i>, 35(2), 289-296.</li> <li>Belloufi, Y., Rouag, A., Aissaoui, F., Benmachiche, A. H., &amp; Brima, A. (2023). Thermal Performance of Double Pass Solar Air Collector: Numerical and Experimental Investigation. <i>Annals of West University of Timisoara-Physics</i>, 65(1), 124-143.</li> </ul>	
<p>Minor REVISION comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>The language quality is generally good, but there are minor grammatical errors and awkward phrasings in some sections. I recommend proofreading the manuscript to correct these errors, particularly in the introduction and conclusion sections. For example, "temporal the variations" should be revised to "temporal variations."</p>	
<p><b>Optional/General</b> comments</p>	<p>The mathematical formulations in the manuscript are comprehensive but could be simplified. For example, the equations in the "Energy balance" and "Heat transfer coefficients" sections are complex. A clearer breakdown of these equations with supporting explanations or graphical illustrations might help readers who are not specialists in mathematical modeling.</p>	

**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)
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

**Reviewer Details:**

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