

## Review Form 1.6

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| Journal Name:            | <a href="#">Current Journal of Applied Science and Technology</a>  |
| Manuscript Number:       | Ms_CJAST_75730   |
| Title of the Manuscript: | Effects of the hydro anisotropy and the magnetic field on the dynamic thermo-bi-diffusive flow in a horizontal cavity confining a porous medium saturated by a binary fluid. |
| Type of the Article      | Original Research Article  |

### **General guideline for 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 guideline for Peer Review process, reviewers are requested to visit this link:

(<http://peerreviewcentral.com/page/manuscript-withdrawal-policy>)

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**PART 1: Review Comments**

|                                     | <b>Reviewer's comment</b>  | <b>Author's comment</b> (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) |
|-------------------------------------|--|--|
| <b>Compulsory</b> REVISION comments |  |  |
| <b>Minor</b> REVISION comments      | <p>Comments # 01: The introduction section is not clear. It is very broad and not at all comprehensively focused to relevance of the manuscript. It lists a lot of other people's research work, but it does not impress on readers the importance of this work, what is not solved in this field and why is it important. Therefore, as a reader, it is difficult to draw the conclusion from them as to why this study has been carried out. The authors need to discuss the previous work instead of only mentioning that author `A' did this and author `B' did this. In conclusion, there is not any insight into the physical description of the problem studied beyond the determination of a number of parameters by means of computing software.</p> <p>Comments # 02: Many of the results and conclusions of this paper are quite basic. I recommend expanding: Introduction, Conclusions and the Results sections. The aim should be to: 1) give a broader view of the literature on the topic and the current state-of-the-art; 2) clarify and discuss the novelty and the significance of the results obtained here, and compare them with those available in the literature, also including discussions on potential applications; 3) complete the manuscript with some additional, less basic results. I cannot support publication unless the authors undertake all the above actions in full.</p> <p>Comments #03: The following latest studies are very relevant. The authors must read and provide complete information on this topic through including these studies.</p> <p>Wen-Xiu Ma, Mohamed R. Ali, R. Sadat, "Analytical Solutions for Nonlinear Dispersive Physical Model", Complexity, vol. 2020, Article D 3714832, 8 pages, 2020. <a href="https://doi.org/10.1155/2020/3714832">https://doi.org/10.1155/2020/3714832</a></p> <p><a href="#">Mohamed R. Ali</a> , <a href="#">Dumitru Baleanu</a>, New wavelet method for solving boundary value problems arising from an adiabatic tubular chemical reactor theory, <a href="#">International Journal of Biomathematics</a> Vol. 13, No. 07, 2050059 (2020).</p> <p>Mohamed R. Ali, R. Sadat, Lie symmetry analysis, new group invariant for the (3 + 1)-dimensional and variable coefficients for liquids with gas bubbles models, Chinese Journal of Physics, Volume 71, 2021, Pages 539-547, ISSN 0577-9073.</p> <p>Ali, M.R., Sadat, R. Construction of Lump and optical solitons solutions for (3 + 1) model for the propagation of nonlinear dispersive waves in inhomogeneous media. Opt Quant</p> |  |

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|   | <p>Electron 53, 279 (2021). <a href="https://doi.org/10.1007/s11082-021-02916-w">https://doi.org/10.1007/s11082-021-02916-w</a></p> <p>Ayub, A., Sabir, Z., Altamirano, G.C. et al. Characteristics of melting heat transport of blood with time-dependent cross-nanofluid model using Keller–Box and BVP4C method. Engineering with Computers (2021). <a href="https://doi.org/10.1007/s00366-021-01406-7">https://doi.org/10.1007/s00366-021-01406-7</a>.</p> <p>Sabir, Z., Ali, M.R., Raja, M.A.Z. et al. Computational intelligence approach using Levenberg–Marquardt backpropagation neural networks to solve the fourth-order nonlinear system of Emden–Fowler model. Engineering with Computers (2021). <a href="https://doi.org/10.1007/s00366-021-01427-2">https://doi.org/10.1007/s00366-021-01427-2</a>.</p> <p>Mohamed M. Mousa, Mohamed R. Ali &amp; Wen-Xiu Ma, A combined method for simulating MHD convection in square cavities through localized heating by method of line and penalty-artificial compressibility, Journal of Taibah University for Science, 15:1, 208-217, (2021). DOI: <a href="https://doi.org/10.1080/16583655.2021.1951503">10.1080/16583655.2021.1951503</a>.</p> <p>Ali, M.R., Sadat, R. &amp; Ma, WX. Investigation of new solutions for an extended (2 + 1)-dimensional Calogero-Bogoyavlenskii-Schif equation. <i>Front. Math. China</i> (2021). <a href="https://doi.org/10.1007/s11464-021-0952-3">https://doi.org/10.1007/s11464-021-0952-3</a></p> <p>Mohamed R. Ali, Wen-Xiu Ma, R. Sadat, Lie symmetry analysis and invariant solutions for (2+1) dimensional Bogoyavlensky-Konopelchenko equation with variable-coefficient in wave propagation, Journal of Ocean Engineering and Science, 2021, ISSN 2468-0133, <a href="https://doi.org/10.1016/j.joes.2021.08.006">https://doi.org/10.1016/j.joes.2021.08.006</a>.</p> <p>Comments #04: The research problem in the paper does not seem to be motivated by a clearly outlined research question and no physical insight is provided for this theoretical analysis. So the authors need to address such deficiencies.</p> <p>Comments #05: Authors should not only state what is shown, but it should be made clear to readers why the figure has been included and what is of interest. I see a string of four figures with no physical statement other than a technical statement what is shown i.e., increasing or decreasing. Why include figures if you have nothing to say about them physically?</p> <p>Comments # 06: A schematic figure representing the physical phenomenon of problem studied needs to be included.</p> <p>Comments #07: Should explain how accurate the results as compared the earlier results (with other methods).</p> <p>Comments # 08: I need the clarification on the application of the problem studied.</p> |  |
| <p><b>Optional/General</b> comments</p> |   |  |

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**PART 2:**

|   | <b>Reviewer's comment</b>  | <b>Author's comment</b> <i>(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)</i> |
|---|--|---|
| <b>Are there ethical issues in this manuscript?</b> | <i>(If yes, Kindly please write down the ethical issues here in details)</i> |   |

**Reviewer Details:**

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| Name:                            | <b>Rahma Sadat</b>               |
| Department, University & Country | <b>Zagazig University, Egypt</b> |