Review of: "Tailoring the First Law of Thermodynamics for Convective Flows"

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Potential competing interests: No potential competing interests to declare.

The authors presented a study based on their title. I have carefully read and reviewed the manuscript. The contribution of the report to the body of knowledge is significant and novel. Also, the aim and objectives of the study are within the scope of the journal. However, the present form of the report needs revision. Therefore, the following comments must be considered carefully before this recommendation:

1. The governing equations should be discussed term by term and also supported by related past studies.

2. All parameters should be free from variables.

3. The obtained results should be compared with published literature graphically.

4. A more detailed abstract with more quantitative data is needed. Clearly mention the aim and main findings of your study. In the abstract, provide some information on the importance of the study subject before giving the study content.

5. The authors should define the novelty of the problem at the end of the introduction.

6. In my opinion, the quality of the general dissertation (introduction, description of the model and equations, numerical method) and exposition of the results can be improved substantially before publication.

7. Complete the manuscript with some additional, less basic results.

8. The scientific significance is not sufficient, and the innovation is not clear.

9. Kindly provide some recommendations for future studies in the conclusion section.

10. The documentation of the paper is poor, as seen from the references. The authors should update the write-up by incorporating the following relevant published articles:

Slip role for unsteady MHD mixed convection of nanofluid over a stretching sheet with thermal radiation and electric field. Indian Journal of Physics. 2019 May:1-3.

Stratified electromagnetohydrodynamic flow of nanofluid supporting convective role. Korean Journal of Chemical Engineering. 2019 Jul 1;36(7):1021-32.

Effects of buoyancy and thermal radiation on MHD flow over a stretching porous sheet using the homotopy analysis

method. Alexandria Engineering Journal. 2015 Sep 1;54(3):705-12.
Entropy analysis in electrical magnetohydrodynamic (MHD) flow of nanofluid with effects of thermal radiation, viscous dissipation, and chemical reaction. Theoretical and Applied Mechanics Letters. 2017 Jul 1;7(4):235-42.
Double stratification effects on unsteady electrical MHD mixed convection flow of nanofluid with viscous dissipation and Joule heating. Journal of Applied Research and Technology. 2017 Oct 1;15(5):464-76.
Laminar convective boundary layer slip flow over a flat plate using the homotopy analysis method. Journal of The Institution of Engineers (India): Series E. 2016 Oct 1;97(2):115-21.
Thermal stratification effects on MHD radiative flow of nanofluid over a nonlinear stretching sheet with variable thickness. Journal of Computational Design and Engineering. 2018 Apr 1;5(2):232-42.
MHD laminar flows and heat transfer adjacent to permeable stretching sheets with a partial slip condition. Journal of Advanced Mechanical Engineering. 2017;4(1):1-5.
Effects of slip and convective conditions on MHD flow of nanofluid over a porous nonlinear stretching/shrinking sheet. Australian Journal of Mechanical Engineering. 2018 Sep 2;16(3):213-29.
Impact of thermal radiation on electrical MHD flow of nanofluid over a nonlinear stretching sheet with variable thickness. Alexandria Engineering Journal. 2018 Sep 1;57(3):2187-97.
Numerical study of entropy analysis for electrical unsteady natural magnetohydrodynamic flow of nanofluid and heat transfer. Chinese Journal of Physics. 2017 Oct 1;55(5):1821-48.
Steady MHD laminar flows and heat transfer adjacent to porous stretching sheets using HAM. American Journal of Heat and Mass Transfer. 2015;2(3):146-59.
Steady MHD boundary-layer slip flow and heat transfer of nanofluid over a convectively heated non-linear permeable sheet. Journal of Advanced Mechanical Engineering. 2016;3(1):1-4.

Effect of electric field flow on nanofluid over a stretchable surface. *Faculty of Science, Kaduna State University: World Science Journal*. 17(1) (2022), 186-190.
Thermal radiation on unsteady electrical MHD flow of nanofluid over a stretching sheet with a chemical reaction. Journal of King Saud University-Science. 2017 Oct 16.