Review of: "The number of free electrons per atom in a metallic conductor"

Hakeem Ullah[1]

1 Abdul Wali Khan University Mardan

Potential competing interests: No potential competing interests to declare.

1. The Introduction is weak; at the end of the introduction, please expound on the new aspect of your work.

2. Rephrase the last paragraph of the introduction with novelty and objectives clear and concise.

One fact that is common in almost all the quality publications within our field is the fact that they present the analysis of results and the discussion of results separately. Meanwhile, the best practice is to build the discussion of results on the results that have been analysed. This will guide the authors to present the best and most accurate results capable of announcing the title and leading to conclusive facts in the next section of the manuscript. But, permit me to ask you a question. Do you know that the analysis of results is quite different from the discussion of results? Comment: Divide the third section into two subsections. Ensure that the revised version of the manuscript contains

3. Analysis of Results

4. Discussion of Results

5. Elaboration of the method used.

6. Validation of the method

Discussions should be elaborated for each physical parameter with a physical meaning.

The literature review must give a critical assessment of the existing state and explicitly indicate the gaps that the current work tries to fill. Gaps can be filled with a few works such as

1. International Communications in Heat and Mass Transfer 126 (2021) 105436. Fractional Analysis of MHD Boundary Layer Flow over a Stretching Sheet in a Porous Medium: A New Stochastic Method, Journal of Function Spaces, Volume 2021, Article ID 5844741, 19 pages.

3.Falkner–Skan Equation with Heat Transfer: A New Stochastic Numerical Approach, Mathematical Problems in Engineering, Volume 2021, Article ID 3921481, 17 pages.

4. A Levenberg-Marquardt backpropagation method for unsteady squeezing flow of heat and mass transfer behavior between parallel plates, Advances in Mechanical Engineering, Advances in Mechanical Engineering, 2021, Vol. 13(10) 1–15.

5. MHD Boundary Layer Flow over a Stretching Sheet: A New Stochastic Method, Mathematical Problems in Engineering, Volume 2021, Article ID 9924593, 26 pages.

6.Levenberg–Marquardt Backpropagation for the Numerical Treatment of Micropolar Flow in a Porous Channel with Mass Injection, Complexity, Volume 2021, Article ID 5337589, 12 pages.

7. Neuro-Computing for Hall Current and MHD Effects on the Flow of Micro-Polar Nano-Fluid Between Two Parallel Rotating Plates, Arabian Journal for Science and Engineering, https://doi.org/10.1007/s13369-022-06925-z.

8. Intelligent Computing of Levenberg-Marquard Technique Backpropagation Neural Networks for Numerical Treatment of Squeezing Nanofluid Flow between Two Circular Plates, Mathematical Problems in Engineering, Volume 2022, Article ID 9451091, 11 pages.

9. Heat Transfer Impacts on Maxwell Nanofluid Flow over a Vertical Moving Surface with MHD Using Stochastic Numerical Techniques via Artificial Neural Networks. Coatings 2021, 11, 1483. https://doi.org/10.3390/coatings11121483.

10. Levenberg–Marquardt Backpropagation for the Numerical Treatment of Micropolar Flow in a Porous Channel with Mass Injection, Complexity, Volume 2021, Article ID 5337589, 12 pages

12. Numerical Treatment of Squeezed MHD Jeffrey Fluid Flow with Cattaneo Chrisstov Heat Flux in a Rotating Frame using the Levnberg-Marquardt Method. Alexandria Engineering Journal (2023) 66, 1031–1050.

13. A Design of Neural Networks to Study MHD and Heat Transfer in a Two-Phase Model of Nano-Fluid Flow in the Presence of Thermal Radiation. Waves in Random and Complex Media, DOI: 10.1080/17455030.2022.2152905.

14. An Intelligent Computing Paradigm for the Buongiorno Model of Nanofluid Flow with Partial Slip and MHD Effects over a Rotating Disk, ZAMM, DOI: 10.1002/zamm.202200141.

15. MHD Boundary Layer Flow of an Upper-Convected Maxwell Fluid by the Optimal Homotopy Asymptotic Method. Scientia Iranica A (**2015**) 22(6), 1972-1980.

16. Analytical Solution for the Three-Dimensional Problem of a Condensation Film on an Inclined Rotating Disk by EOHAM. IJSTM **2016** doi:10.1007/s40997-016-0030-8. PP.1-8.

17. Darcy-Forchheimer Flow of MHD CNTs Nanofluid: Radiative Thermal Behaviour and

Convective Non-Uniform Heat Source/Sink in the Rotating Frame with Microstructure

and Inertial Characteristics. AIP Advances. AIP Advances **8**, 125024 (2018); doi: 10.1063/1.5066223,

18. MHD Thin Film Oldroyd-B Fluid with Heat and Viscous Dissipation over Oscillating Vertical Belts. Heat Transfer Research. *Heat Transfer Research* 50(8):1–11 (2019).

19. Analytical Solution of Heat and Unsteady Flow of a Second-Order Fluid Past on a Porous, Moving, and Oscillating Vertical Belt. Heat Transfer Research, 50 (15), 1105-1126, (2019).

20. MHD Thin Film Oldroyd-B Fluid with Heat and Viscous Dissipation over Oscillating Vertical Belts. Heat Transfer Research. *Heat Transfer Research* 50(8):1–11 (2019).

21. Three dimensional MHD nanofluid thin film flow with the heat and mass transfer over an inclined porous rotating disk. Advances in Mechnaical Engineering, 11 (8), 1-11, 2019.

22. Three Dimensional MHD Rotating Flow of Viscoelastic Nanofluid in Porous Medium Between Parallel Plates. **DOI:** 10.1615/JPorMedia.2020027478 **pages 715-729,**

Future directions for the work should be inserted at the end of the summary.

References are not arranged according to journal standards. Please follow the journal standard reference style.

The paper is recommended for publication after the above-mentioned **MAJOR REVISIONS.**