

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

Mehreen Fiza¹

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 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 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 accurate results capable to announce the title and lead 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 by incorporating the regression analysis.

Discussions should be elaborated for each physical parameter with 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 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 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 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-Marquardt 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 Technique via Artificial Neural Networks. *Coatings* 2021, 11, 1483. <https://doi.org/10.3390/coatings11121483>.
10. Levenberg–Marquardt Backpropagation for 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 Christov heat flux in a rotating frame using Levenberg-Marquardt method. *Alexandria Engineering Journal* (2023) 66, 1031–1050.
13. A design of neural networks to study MHD and heat transfer in 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. 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 optimal homotopy asymptotic method. *Scientia Iranica A* (2015) 22(6), 1972-1980.
16. Analytical solution for three dimensional problem of condensation film on 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 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 Mechanical 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 direction of the work should be inserted at the end of the summary.

References are not arranged as per journal standards. Please follow the journal standard reference style.

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