Review of: "Investigation of the Dielectric Behaviour of Propylene Glycol (100) Dispersed With Graphene Nano Powder to Determine the Optimal Conditions Using Response Surface Methodology"

Muhammad Waqas Hanif[1]

1 University of Engineering and Technology Taxila

Potential competing interests: No potential competing interests to declare.

I appreciate the effort you put into preparing the manuscript, "Investigation of the Dielectric Behavior of Propylene Glycol (100) Dispersed With Graphene Nano Powder to Determine the Optimal Conditions Using Response Surface Methodology." The topic is intriguing; however, you should consider the following comments before resubmitting the paper:

1. In the abstract, the authors must specify the precise parameters considered in the response surface methodology (RSM) model, which evaluates the impact of distance and breakdown voltage on the dielectric behavior of a propylene glycol-graphene nanopowder nanofluid. What were the key input variables, and how were they structured within the model?
2. The authors should elaborate on why nanoparticle type, concentration, dispersion, and temperature are considered attractive options for achieving specific goals in their introduction.
3. Additionally, in terms of performance, how do propylene glycol-graphene nanofluids compare to other nanofluid options?
4. In the introduction, the authors should elaborate on the advantages and disadvantages of each nanofluid, particularly in terms of electrical conductivity as well as dielectric characteristics. Additionally, what factors influence the selection of nanofluids in industrial applications?
5. Why do the authors use RSM, and what method did they use to design the experiment?
6. There are numerous grammatical errors; the paper requires extensive proofreading.
7. There is a need to cite a reference at the end of the line “The value of the coefficient R2 might be anything from 0 to 1.” in Section 4.1.1. I suggested citing “Hanif, M.W., Wasim, A., Sajid, M. et al., Evaluation of Microstructure and Mechanical Properties of Squeeze Overcast Al7075–Cu Composite Joints." China Foundry 20, 29–39 (2023). https://doi.org/10.1007/s41230-022-1242-8”