Dear Dr. Singh,

Thank you for submitting the above-mentioned article to Solar Energy.

We are pleased to inform you that at this point, the scientific content requires no further revision and we are prepared to officially accept your article.

We have been able to use your submitted paper for the review process and now that the paper is going to go into production, there are a couple of small things that need to be done to ensure smooth processing. Please now take the following steps:

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We once again thank you for your contribution to Solar Energy and look forward to publishing your work.

Yours sincerely,

Brian Norton, PhD DSc
Associate Editor
Solar Energy

Comments from the Editors and Reviewers (if available):

Reviewer #2: The present manuscript investigates the graphene nanofluids for solar applications from both theoretical (simulations using wave optics model) and experimental perspectives. It is monitoring the changes in the spectral absorption of the nanofluids with the concentration and shape. The manuscript is written well, it contains good scientific information and it offers a direct comparison between the modelling and the experimental results. Thus, the manuscript aims to provide a modelling tool for developing nanofluids to reduce the number of lab tests which will have a good impact in the industrial applications. Therefore, its publication will be of interest to the scientific community working in this area.

However, there are a series of points that should be addressed prior its acceptance for publication as they will improve paper readability and addressability. These points (some being also based on the answers that the authors provided to the previous comments) are listed below.

The authors are providing a good motivation for using the wave optics model instead of the ray tracing approach, but the main assumptions (together with the scientific motivation driving these assumptions and their implications on the final results) of the wave optics model are incomplete. Thus, the authors should provide details on: a justification for the geometrical distribution that was chosen (e.g. why this lattice was used instead of a more regular or more complex one); specify if the model is allowing
for the presence local clusters or not; describe the type of interactions (if any) between the nanoplatelets; how the change in concentration and shape will affect the various parameters etc.

In the present form, the described methodology only allows the reader to deduce some of these assumptions based on the results, but it is not clear whether or not those assumptions were actually considered to begin with.

Page 5 Line 17-18
Remove "and as such a 10m length of copper will have the same electrical conductivity as 10cm" as the statement is clear.

Page 5 Line 56-57
A "critical concentration at which the nanoparticles start to bundle" is mentioned, but its actual value is not provided. There are cases reported in the literature where the graphene "nanoparticles" can start to bundle at a concentration of 0.01%. Thus, this can also raise questions on the stability measurement as this was monitored at a lower concentration (0.008%). So, its value should be mentioned to avoid confusions. Also, the text should be consistent in using the terms nanoplatelets and nanoparticles i.e. use only one.

Page 7-8 and Figure 2 - 5 and 7
The electric field variation will be influenced by the concentration and shape of the graphene. However, for figure 2 and 3 the parameters for which those were obtained are not specified in clear. While Figure 2 can be considered as a typical distribution of the electric field in 2D (the geometry was defined in 3D!!!), Figure 3 should show the variation of the electric field with depth (including the trend lines) for the various concentrations (e.g. 0.004, 0.008 and 0.012%) and shape (cuboid and spherical). This will provide the reader with a better understanding of the model and the implications of modifying the distance between particles (i.e. of the concentration) and the shape (described in Figure 4). If the figure becomes too populated then these dependencies can be presented in different figures. Also, in caption of the Figure 2, the parameters for which this modelling was performed should be included.

Figure 5 presents the modelled values of the absorbance, but this information is repeated in Figure 7. I will suggest removing figure 5 and keep only the Figure 7, but the absorbance for graphene oxide should be included. Thus, a new figure 7 should be made and it should contain the following information:
- the modelled data using graphene and the corresponding trendline
- the modelled data using graphene oxide and the corresponding trendline
- the experimental data with error bars (at the present no error bars are present) and the corresponding trendline

Page 7 Line 51-52
The message of the sentence is not very clear. Please rephrase.

Page 8 and Figure 9
The stability is demonstrated by providing the absorbance for various wavelengths in time only for the 0.008%. However, to prove the stability for the other samples, one can show the variation of the absorbance for all concentrations. This can be done by describing the time variation of the absorbance at one (or more, if needed) wavelength(s) e.g. 555 nm for all the concentrations studied.

In the 4th Editor comment, the possibility of implementing this model in the real applications is mentioned. The authors are responding that this analysis was performed based on a UK typical building, but no data are included to sustain it. This will be important as the main claim of the manuscript is that the wave optics model can provide an alternative tool for designing new nanofluids and it can reduce the need of extensive and expensive lab trials.