

In this response letter, comments from the reviewer are highlighted in black font, our responses are in blue font, and modifications made to the manuscript are indicated in red font.

We have uploaded data to <https://zenodo.org/records/11093920> and added a few sentences to the data availability section.

“The data used in the numerical simulations are available at <https://zenodo.org/records/11093920>. The additional data from this study are available on request.”

Report #1

Submitted on 16 Apr 2024

Anonymous referee #2

I think that the authors have addressed many critical points in their manuscript and that it is now much clearer. I list some minor comments below while recommending a thorough proofreading of the manuscript.

Thank you very much for your positive feedback and suggestions. We have made revisions accordingly and conducted a thorough proofreading. We would like to express our sincere appreciation and extend special thanks to the two anonymous reviewers for their valuable contributions to improving this manuscript. We have added a few sentences to the acknowledgment section of our manuscript.

“...We would like to thank the two anonymous reviewers for their invaluable help in improving the manuscript.”

Figure 1 (line 157): in the caption, the authors might consider adding a sentence like 'see section ... for details' if they feel that an explanation of the flowchart here would not be concise enough.

Thank you for your suggestion. We have added a sentence in the caption.

“Target scattering coefficient denotes the scattering coefficient of the baseline case. See section 2.3 for more details.”

Line 221 and throughout the manuscript: the subscripts that are labels and not indices (such as ‘sca’, ‘min’, or ‘geo’), the function sin, and the differential symbol should be typeset upright.

Thank you for your suggestion. We have made adjustments to those subscripts and functions.

Line 235: Note that?

Corrected.

Line 235: there is a missing space before μm .

Corrected.

Figure 7 (line 435): I would suggest including a marker for the Bouguer–Lambert lines like in the other models.

Thank you for your suggestion regarding Figure 7. In this figure, the Bouguer–Lambert results serve only as a reference for comparison, and we want to highlight the contrast between the sphere and super-spheroid models. After some careful considerations, we decided not to use markers for the Bouguer–Lambert lines.

Line 355 and throughout the manuscript: please make sure that the imaginary part of the refractive index and other symbols referring to physical observables are consistently typeset in italics.

According to your suggestions, we have gone through and revised the manuscript, ensuring that the imaginary part of the refractive index and other symbols indicating physical observables are consistently typeset in italics.

Figure 6 (line 420): to improve readability, I would consider including a marker where data points are, in addition to the lines in the plots.

Thank you for your suggestion. We have now added markers to the data points along with the plot lines, as you suggested.

Line 441: please include a comment about the nan values in the table caption and in the related section.

Thank you for your suggestion. We have added a comment about the nan values in the caption and related section.

Line 414 “In cases where target values exceed the range of the look-up table, “nan” values are provided in Table 3 (the same in Table 4).”

Line 441 (the table caption): “The nan values indicate that target values fall outside the look-up table.”

Report #2

Submitted on 21 Apr 2024

Anonymous referee #1

1) The article has been significantly improved since the first version.

We greatly appreciate your feedback and suggestions. We would like to express our sincere appreciation and extend special thanks to the two anonymous reviewers for their valuable contributions to improving this manuscript. We have added a few sentences to the acknowledgment section of our manuscript.

“...We would like to thank the two anonymous reviewers for their invaluable help in improving the manuscript.”

2) The language and readability of the abstract could be improved to more clearly explain the objectives, methodology, and conclusions of the article.

Thank you for your suggestion. We have revised the abstract a little bit for better readability.

3) The authors called the last section “Summary”. Should it be changed to “Conclusions”?

Thank you for your suggestion. We have changed the title to “Conclusions”.