Interactive comment on “A shape model of internally mixed soot particles derived from artificial surface tension” by H. Ishimoto et al.

Anonymous Referee #2

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This manuscript presents optical modeling of internally mixed soot particles, a subject that is of interest for atmospheric remote sensing. The modeling approach and computational techniques are sound and reasonable. The results are representative and semi-extensive, and thus should be useful in remote sensing analysis and relevant optical interpretation. I suggest the following revisions for the authors’ consideration:

1) Is Eq. (1) necessary? Remove it, if it is unnecessary.

2) The discussion on the efficiency of computational methods only focuses on the shape aspect. Actually, the refractive index has large impact on the efficiency comparison between FDTD and DDA.

3) It might be better to have a table of the refractive indices at the 10 wavelengths.
4) A reference is required for the Maxwell-Garnett mixing rule.

5) The results are presented for single particles. It is unclear to obtain the size-averaged results from the simulated results. More discussion is required on the comparison between simulations and observations/measurements.

6) In summary, it might be better to summarize the new knowledge gained from the present modeling study.