Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2018-306-RC3, 2018

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Measurement and modeling of the multi-wavelength optical properties of uncoated flame-generated soot" *by* Sara D. Forestieri et al.

Anonymous Referee #3

Received and published: 26 May 2018

This is a well written article and present the solid absorption result using the well constrained soot source and the result is straightforward for models to pick up. but it would even more benefit the community if addressing the following points:

-how could flame soot represent the ambient soot, in terms of refractive index and particle morphology? Then how could be suggested these results could be widely used in the model?

-if we have a different source of BC, for example the biomass burning, how could we guarantee the RI still the same?

-It would be better to show the mass distribution of DMA-selected particles at different

Printer-friendly version

Discussion paper

cases (to indicate the width of the distribution), as the single particle mass is crucial for the following analysis.

-how have you proven the TD 5secs soot is nascent or no re-condensation down the pipe? Maybe showing some mass spectra to prove these are all refractory BC will be useful. And this also concerns the coated and then denuded soot.

-It was mentioned you have used three PASS instruments, how were they compared with each other? better to show in a plot maybe.

-Fig. S4, could we change the colour scale a bit show the minima of X2.

-there is no label for Fig. S8.

-one important information is how the size parameter could relate to the volume equivalent diameter. For a general practice, could we assume >160nm BC will have a MAC using RDG approach, and how this VED will depend on the wavelength.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-306, 2018.

Printer-friendly version

Discussion paper