

2nd Review. Comments to the manuscript “*Characterizing aerosol sources based on aerosol optical properties and dispersion modelling in a Scandinavian Coastal Area (Aarhus, Denmark)*” by the authors Zihui Teng, Jane Tygesen Skonager, et al.

I thank the Authors of the paper for having addressed the 2nd Reviewer’s and all my initial comments in such an exhaustive manner. I find that the quality of the manuscript has improved greatly. However, I have some last pressing issues concerning the use and the description of the Aethalometer Model.

The authors should consider adding a comment on why they chose Absorption Ångström Exponents to be $\alpha_{ff} = 1$ and $\alpha_{bb} = 2$. In the literature, many studies have been published concerning the use of optimised AAE values. Indeed, an incorrect choice of the parameters – and especially an incorrect choice of α_{ff} – can lead to non-robust apportionment results.

Additionally, in the supplementary material equations (0.1) (0.2) and (0.5) are incorrect. Equations (0.1) and (0.2) need a minus sign at the exponent and equation (0.5) is not a sum it is fraction.

Lastly, why are the authors carrying out BC apportionment by multiplying BC(880nm) by the calculated BB% at 950nm? Optical apportionment carried out at one wavelength does not carry over to another wavelength so easily. Could the authors address and solve this issue?