Atmospheric
Chemistry
and Physics
Discussions

Interactive comment on "Identifying a regional aerosol baseline in the Eastern North Atlantic using collocated measurements and a mathematical algorithm to mask high submicron number concentration aerosol events" *by* Francesca Gallo et al.

Anonymous Referee #1

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An algorithm is developed and presented for removing the influence of local sources from long-term, high time resolution data collected at DOE's User Facility in the Eastern North Atlantic (ENA). The technique should be useful for others interested in performing a similar data analysis. I only have minor comments which are listed below.

Lines 19 – 21: What was the RH of the sample air at C1 and S1? The size ranges of the three optical size modes should be reported at the sampling RH.

Line 18: Change to "….to create AN aerosol mask…"

Figure 2: The axes don't seem to be labeled correctly. The x-axis should be nm, not nm^-3. Is the y-axis dN/dlogD?

Figure 7: It might be easier to see differences between C1 and S1 if one were plotted with slightly larger markers and presented behind the other one.

Line 11: Should be "Figure 8", not 8b.

Figure 8: Wind direction should be plotted on an additional y-axis axis rather than using the vertical bars as an indication of wind direction values.

Line 4: Define σb.

Figure 11b: It is hard to differentiate the dark green and black markers. Maybe make the dark green a brighter color?

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2020-49, 2020.