Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2017-1117-RC1, 2018

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Seasonality of aerosol optical properties in the Arctic" *by* Lauren Schmeisser et al.

Anonymous Referee #1

Received and published: 21 February 2018

This paper compares the seasonality of bulk aerosol optical properties (either sub-2.5 um or sub-10 um) at six sites in the Arctic for the years 2012 to 2014. The presentation of monthly median values for each site reveals differences in seasonality and boxplots of hourly averaged data reveal monthly-to-month variability. A main conclusion is that optical properties vary regionally across the Arctic primarily due to variability in source regions. The paper is straightforward and well-written. I recommend publication with only the minor corrections listed below.

Table 1. The information in the size cut column is confusing. Should it be aligned with the different instruments? What does NA mean?

Figure captions. I realize that the size range of the measurements is given in the text but it would be useful to provide it in the figure captions, too, since many readers may

Printer-friendly version

Discussion paper

only look at the figures.

Page 12, lines 12 - 14: What are the April and August peaks in light scattering at Summit due to?

Page 12, line 6: It is not clear from Figure 4 that PAL "has the highest absorption coefficients during the summer."

Page 13, lines 28 - 32: Could lower SSA at SUM during September be due to forest fires?

Figure 9. It would be helpful to have location markers for the stations on the maps.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2017-1117, 2018.