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Atmospheric Chemistry and Physics Discussions



# *Interactive comment on* "Measurements of optical properties of atmospheric aerosols in Northern Finland" *by* V. Aaltonen et al.

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Page 11707, line 23: "weather measurements" were replaced with "meteorological measurements", as suggested by the reviewer.

Page 11707, line 28. Yes, practically it means this. Almost all the visits are done by the ATV during summer time and snow mobile during winter time. Already this causes interference to the measurements. During normal operation, the staff is on the station only for few hours, twice a week. Also activities during the longer visits (repairs, installations, etc.) usually cause interference.

Page 11708, line 20: As this is just a section where data processing is described we feel that this section would not be the right place for them.

Page 11710, line 16: This is good point from referee, October 2003 is now left out from the data set and the figure 3c is replotted. It was found out that the value for this month is not representative due to a very few number of measurement points in that month.

Page 11711, line 8: The size distribution with DMPS is measured in the range 7-500 nm. In the station the total aerosol concentration is measured with a separate CPC which has a cut off diameter of 10 nm. Because we are using DMPS data, the correct value is from 7 nm.

Page 11714, line 24: The sentence was modified into the following form: ”The scattering coefficient correlated strongly with the number concentration of accumulation mode particles, and even better with the subset of particle larger than about 200-300 nm in diameter”. This was the message we wanted to give. Clearly, if there are sufficiently large numbers of Aitken mode particles compared with accumulation mode particles, also the contribution of Aitken mode to light scattering would be significant.

Fig 3: Colors are mentioned in the figure caption, as suggested by the reviewer.

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Interactive comment on Atmos. Chem. Phys. Discuss., 5, 11703, 2005.