

Interactive comment on “Monitoring of inorganic ions, carbonaceous matter and mass in ambient aerosol particles with online and offline methods” by H. Timonen et al.

Anonymous Referee #2

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The manuscript by Timonen et al. presents an impressive data set with online and offline measurements of several aerosol species. It also presents data regarding the important question of what the instruments measure which is crucial for all aerosol measurements. I would however like to have seen a more elaborating discussion regarding how these measurements should be handled in the future.

Minor comments:

P 5, L3: positive artefacts. The positive artefacts in filter sampling regarding organics are known, but can it be directly translated to inorganics. I would like some reference

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in the matter.

P6, L23: Clarify. If the IC gets 0.1 ml/min it would get 1.5 ml in 15 minutes. What is the larger 1 ml loop used for.

P7, L16: The reference Viidanoja et al. (2002) is not the original reference to pyrolysis during thermal analyses of atmospheric carbon. I would suggest Johnson et al 1979 or 1981.

P7, L25: Inadequate method description: How is the RT-OCEC measuring optical EC. Is it like a PSAP but without the reference filter? Does it involve any MAC (mass absorption coefficient) or corrections for filter scattering?

P8, L22 and table 1: No r-values found in the table. Add the r-values since they contain crucial information regarding the data.

P10, L19: The explanation regarding that the difference is caused by evaporation is not elaborated.

P14, L5: The sentence is too general. I suggest adding “According to this method.” to the sentence.

P14, L13: Since the result is based upon interfering gases are effectively removed from the aerosol. How have the denuder efficiency been tested?

P16, L25: add “the” prior to “degree”.

P 20, L 2: are nitrate and ammonium (or 9.1 and 41 %) supposed to be reversed?

Figures: The axis, markers and labels are not consistent

Fig 1-3, 5: X-axis label should be with the name of the month. The repeated year makes it harder to read. Extra for figure 1 is that the 1st in every month is implied.

Fig2-3: Line to the last data point is missing, probably because two months of missing data.

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Fig 8-10: X-axis. There are of different lengths and sometimes with, and sometimes without minor unit markers.

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