

We thank the reviewer for taking the time to read the article and for valuable comments on our paper. To facilitate the revision process, we have copied the reviewer comments (in black text) and our responses are in blue font. We have responded to all the reviewer comments and made alterations to our paper (in bold text).

Editor:

Public justification (visible to the public if the article is accepted and published):

The main problem identified is now addressed with the new paragraph at the end of section 2.4. The other minor points have been largely addressed and while I would venture that some interpretations may remain contentious, this is somewhat inevitable with new methodologies, so I do not think publication needs to be held up further in terms of scientific merit.

The following technical needs fixing before final publication:

Table 1: Simply describing the instrument with a number after the deletion of "TEI" is not sufficient; it would be better to say something like "Thermo Environmental model 49" or similar. I would generally harmonise the entire column, because it is currently a mixture of ordering of instrument description, manufacturer and model number, with different layouts on different rows.

The column presenting the instruments in Table 1 is now harmonised and one related reference is added to the reference list:

Table 1: The list of instruments used in the measurements.

Instrument	Station	Measured variable
DMPS (Airmodus CPC A20 with Vienna type DMA)	SC	PNSD
DMPS (Twin-DMPS, Aalto et al. 2001)	UB	PNSD
Q-ACSM (Aerodyne Research)	SC	Non-refractory PM ₁
TEOM (model 1405, Thermo Scientific)	SC	PM ₁₀ and PM _{2.5}
Aethalometer (AE33, Magee Scientific)	SC	BC
Ambient NO _x Monitor (APNA-370, Horiba)	SC	NO _x
Ambient Ozone Monitor (APOA-370, Horiba)	SC	O ₃
LICOR (model LI-7000)	SC	CO ₂
Ambient Carbon Monoxide Monitor (APMA-360, Horiba)	SC	CO
NO-NO ₂ -NO _x Analyzer (42C, Thermo Environmental Instruments)	UB	NO _x
O ₃ Analyzer (model 49C, Thermo Environmental Instruments)	UB	O ₃

Ambient Carbon Monoxide Monitor (APMA- 370, Horiba)	UB	CO
Ambient Sulfur Dioxide Analyzer (APSA -370, Horiba)	UB	SO ₂

Aalto, P., Hämeri, K., Becker, E. D. O., Weber, R., Salm, J., Mäkelä, J. M., Hoell, C., O'Dowd, C. D., Karlsson, H., Hansson, H-C., Väkevä, M., Koponen, I. K., Buzorius, G., Kulmala, M., Physical characterization of aerosol particles during nucleation events, *Tellus B*, 53(4), 344-358, <https://doi.org/10.1034/j.1600-0889.2001.530403.x>, 2001.

Additionally, also one typo was corrected in the reference list and unnecessary piece of text was removed from Table 3 after the term TRA2.