Dear Editor,

We request post-review adjustments on Table 1 of amt-2023-245. The terminology for the scattering correction factor was changed during the review process as required by Reviewer 2 (as shown by the snapshot of the response file shown below).

3. Equation (15) and the paragraph below: The authors used C', C_{AE33}, and C_{ref} to represent different meanings for scattering correction. The denominator of Equation (15) was used to correct for the bias generated by filter scattering. In this sense, C' is

8

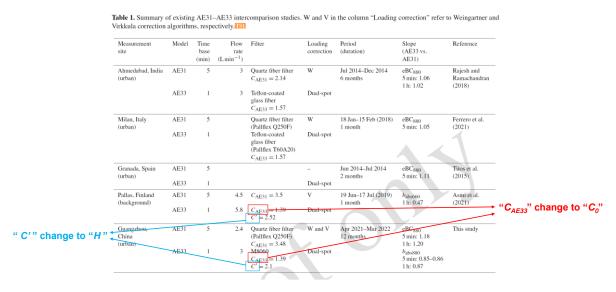**Point-by-point response to reviewers' comments (amt-2023-245)**

anyway not appropriate because you have employed C' to represent "second correction factor". I suggest the authors keep unambiguity and consistency in the definition and application of the three forms of conversion factor and revise Equation (15).

Response to R2Q3: Thanks for the suggestions. The use of C' had been abandoned and the second correction factor was termed as "harmonization factor" according to a previous study (Savadkoohi et al., 2023).

Equation (15) was revised as follows:

$$b_{abs}\,(AE33) = \frac{eBC_{corrected} \cdot \sigma_{air}}{H} \tag{15}$$

We applied the said changes in the main text and SI during the review process but forgot to update Table 1 accordingly. We spotted this issue during the proofreading. Therefore, we ask for adjustments to Table 1 as follows:

Table 1. Summary of existing AE31–AE33 intercomparison studies. W and V in the column "Loading correction" refer to Weingartner and Virkkula correction algorithms, respectively.

Sorry for the inconvenience caused.

WU Cheng on behalf of all authors.

2024-05-14