

Interactive comment on “Minimizing light absorption measurement artifacts of the Aethalometer: evaluation of five correction algorithms” by M. Collaud Coen et al.

Anonymous Referee #1

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The manuscript "Minimizing light absorption .." by Coen et al., is a significant contribution towards the development of an improved correction scheme for light absorption coefficient (σ) measurements by means of aethalometers. Some general comments are listed below for a revised manuscript.

The correction algorithms evaluated here are 4 existing algorithms, while 2 of those have their critical parameters modified and are introduced as new methods.

2. Since no reference method exists for a control measurement of σ , the performance evaluation of the correction schemes, presented here, is either relative to each other or based on concurrent measurements of σ by the MAAP. Although the

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MAAP has been found to provide an improved measurement of σ , it has not been established as a universal measurement method for absorption. It is suggested that this is made clear in the manuscript.

3. Table 1 lists the instrumentation used for obtaining the datasets under examination. It includes sampling of different size fractions under different conditions (dry-ambient) and on different filter tapes. Some indication of the uncertainty introduced in the evaluation from these factors is necessary.

4. According to table 1, a PAS was available as a reference instrument for σ in one of the campaigns (AMA). Despite the short measurement period it would be advantageous for the manuscript to present the comparison between the PAS values and the corrected σ obtained by the old and new algorithms.

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