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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Recommendations for the interpretation of "black carbon" measurements" *by* A. Petzold et al.

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Dear Olga,

Thank you very much for your detailed comments to our manuscript on recommendations for the interpretation of black carbon (BC) measurements. You raised several points which I will answer point by point.

1. You request a clarification of our statement "In the end, all definitions used in the scientific literature refer to a specific property of the respective carbonaceous fraction, or to the method that is used for the measurement" and supporting descriptions and definitions. We are confident that we provide an in-depth overview over the definitions used in the scientific literature and respective references in sections 2 and 4. However,

we added the references (Heintzenberg and Winkler, 1991; Pöschl, 2003; Bond et al., 2013) for clarification to the introduction.

2. You request clarification of the statement that "there are numerous publications in the scientific literature that refer to the same property but with different terms and, vice-versa, with publications referring to different properties but with similar names". Here we believe that this introductory statement is self-explaining and sufficient details and examples are given later. Furthermore, we think that the structure of the paper is now well elaborated. We started in a draft version with introducing soot at a very early stage but found this approach confusing. Now all definitions appear in a single section which makes the structure of the manuscript clear.

3. As we discuss in our definition of BC this term is not related to material emitted from combustion processes. In contrast, however, soot is defined as being produced during incomplete combustion. So, we disagree with your statement that BC is generally formed in combustion together with OC. We separated the term BC and related more specific terms from the source process because discussing properties of BC extends beyond discussing combustion particles.

4. We fully agree with your statement on the specific surface area and adjusted the value accordingly by replacing the statement "specific surface area typically greater than 100 m2 g−1 by "specific surface area typically larger than 10 m2 g-1 and may exceed 100 m2 g-1."

Best regards

Andreas

References

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