

Interactive comment on “Detailed characterization of the CAPS single scattering albedo monitor (CAPS PMssa) as a field-deployable instrument for measuring aerosol light absorption with the extinction-minus-scattering method” by Rob L. Modini et al.

Anonymous Referee #2

Received and published: 16 September 2020

This study provides a detailed characterization and thorough discussion on the performance of commercialized CAPS PMssa in determining aerosol light absorption using the extinction minus scattering method and the associated uncertainties with this method. While the paper is well written in many aspects, I am a bit concerned that the key points and many useful information may be missed by the readers because of the extraordinary length of the manuscript. In general, I feel that Section 2 and 3 can be combined and shortened to make the experimental method clearer and to the

C1

point. Specifically, in section 2.1 and 2.2, Onasch (2015) was heavily cited and many of the description of the instrument is repetitive. Section 2.3 and the sub-sections of Sect 2.2 are also mixed with extensive discussion, which can either to be moved to later sections or to Appendix. Also, the results from the Bologna campaign seems less relevant to the main focus of this study: identifying and quantifying uncertainties in the absorption measurement due to the scattered light truncation effect and cross calibration constant. I recommend publication of this manuscript after the above points are considered.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2020-292, 2020.

C2