

Interactive comment on “The impact of bath gas composition on the calibration of photoacoustic spectrometers with ozone at discrete visible wavelengths spanning the Chappuis band” by Michael I. Cotterell et al.

Anonymous Referee #2

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This manuscript builds on previous work by Fischer and Smith (2018) and further explores the dependence of PAS sensitivity with ozone as calibrant on the ratio of N₂ and O₂ in the bath gas at relevant wavelengths, allowing for direct comparison with measurements by Bluvshstein et al. (2017). The paper is very well written. The experiment is well planned and carried out. The language is precise, and the analysis is thorough. I only have a couple of minor comments, as detailed below, for the authors to consider.

The authors calculated extinction coefficient at 514 nm from the extinction measurement at 658 nm since no direct measurements were available, but how reliable is the

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calculation the what the associated uncertainty is? Have the authors tried calculating extinction coefficient at 405 nm from that at 658 nm and compare the results with the actual measurement of bext at 405nm? That way the accuracy of the calculated bext at 514 nm can be assessed.

Figure 3. Can the authors add vertical uncertainty bars for PAS sensitivity? \

Page 6 Line 17: ... and the sample passed through only the 514-nm PAS only.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-409, 2018.

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