

Interactive comment on “The influence of the baseline drift on the resulting extinction values of a CAPS PMex” by Sascha Pfeifer et al.

Anonymous Referee #3

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Review of “The influence of the baseline drift on the resulting extinction values of a CAPS PMex” by Pfeifer et al.

The manuscript describes ambient measurements of aerosol extinction (450, 530, and 630 nm wavelengths), black carbon mass, and NO₂ mixing ratio that were conducted in an urban environment over a two week period. As would be expected, the blue and green extinction measurements were most susceptible to variability in the NO₂ mixing ratios, while the red extinction measurement showed little sensitivity. It is well known that absorbing gases can change the CAPS measurement, which is why the instrument employs a simple background loss correction scheme. The authors find that this simple step-wise background correction does not keep up with the observed gas-phase variability, and so they employ a smooth spline to represent the background

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loss over time. They report that this method reduces transients and artifacts in the extinction time series. The paper is very short, and the main finding seems to be that a cubic fit captures the timeseries variability of the CAPS background loss better than a 5-minute stepwise function. This is obvious and the sort of thing that I would expect to see as a 1-2 sentence statement in the Methods section of a journal paper, but not as a standalone paper (even one described as a technical note).

I do not think that the manuscript meets the journal's requirement for scientific significance – “Does the manuscript represent a substantial contribution to scientific progress within the scope of this journal (substantial new concepts, ideas, methods, or data)?” Consequently, I recommend that the paper be rejected.

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