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Discussions

Interactive comment on "An Automated Baseline Correction Protocol for Infrared Spectra of Atmospheric Aerosols Collected on Polytetrafkuoroethylene (Teflon) Filters" *by* A. Kuzmiakova et al.

Anonymous Referee #2

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General Comments This paper presents a method to correct for variability in PTFE filter baseline IR absorbance brought about by non-uniform filters and by the stretching incurred during long sampling periods. This tool will help researchers access data from networks, such as IMPROVE, in order to increase our understanding of organic aerosol transformation. The paper is generally well-written, with only minor grammatical or typographical errors. There are some sections that could use more descriptive, perhaps less mathematical, text in order to reach a wider audience.

I recommend this paper for publication with very minor revisions.

Specific Comments

Beginning in section 2.1, the authors introduce a large number of variables represented by symbols. Given the large number, a list should be provided to help the reader follow along or be able to easily look up any variable in one place.

Section 3.1 is hard to read. Granted, this kind of mathematical treatment is new to me, but the authors might consider using more descriptive text, in addition to the variables, to help a wider range of researchers access this tool. This applies broadly to the paper to some extent, but especially to this section.

I wondered when reading the introduction and conclusion exactly how much time, or computational time, was saved by doing the baseline fitting with spline fits rather than polynomial. It also was not entirely clear how the spline technique alleviated the necessary "expert" interpretation relative to the polynomial fit. If the authors could elaborate on these two points, it would strengthen the paper.

Technical Comments

Abstract line 6: I suggest moving the word "remains" directly after "the question"

Pg 2 line 8: "relatively" Pg 2 line 26: "A growing number of papers have been published in recent years" Pg 2 line 27: "One of the applications includes" Pg 4 line 8: "a priori. Therefore"

Pg 14 line 13: omit comma

Figure 3: x-axis tick mark labels on left and right panels overlap. Figure 7 may be unecessary (especially given the large number of high-information figures that are certain to be large).