

Interactive comment on “Quantifying organic matter and functional groups in particulate matter filter samples from the southeastern United States, part I: Methods” by A. J. Boris et al.

Anonymous Referee #1

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This paper reports a more comprehensive and more accurate analysis of the functional group content of aerosol samples measured by FTIR of samples on Teflon filters than presented to date. For this reason, it is an important advance and should be published.

There are a few minor issues that should be fixed (citation to unpublished work p. 5; discarding of outliers p.6; incorrect wording “compromise” p. 20) but nothing major. Overall, this is a tour de force of analytical chemistry with modern statistical methods applied, which result in new calibrations and improved fitting. The work as written is comprehensive, complete, and accurate.

My main and only quibble is that while the work is undoubtedly an improvement over

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past work it fails to provide a direct comparison to other methods cited. So the reader is left to wonder the degree to which the new calibrations and improved fitting affect the results. I realize this is only a relative standard, but it still seems of merit with respect to existing literature. Does it change other results by 10% or more? Or does it provide a much more substantive analysis that is consistent with past findings?

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