

## ***Interactive comment on “An open platform for Aerosol InfraRed Spectroscopy analysis – AIRSpec” by Matteo Reggente et al.***

### **Anonymous Referee #2**

Received and published: 24 January 2019

The authors present an open source analysis tool to determine the functional group and concentration of aerosol samples collected on filters. The authors provide details about how the tool analyzes baseline corrections, functional groups, and organic/elemental carbon concentrations with real world examples and comparisons. Though the paper reads as a manual, and I agree with referee#1 that more discussion of functional group quantification would improve the paper, the paper is mostly well written and suitable for publication in AMT after some minor revisions, listed below (and with the possible inclusion on further quantification analysis of functional groups).

Specific comments: 1. Similar to referee#1, I was wondering the suitability of this tool for various methods of IR Spectroscopy analysis, including the use of different filters to collect the samples than the ones analyzed here. It would be beneficial to have a

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paragraph to a section describing the feasibility of this tool for other IR techniques.

2. Figure 1 vs Figure 3. It seems that Figure 1 and 3 are the same, but 3 has more detail than 1. Is it necessary to have both figures?

3. Similar to referee#1, I think there are too many screen shots of the website in the main manuscript. If you place them into a supplemental information, it would still be useful for the reader without having too many figures that may make the flow of the paper difficult.

General comments: There are some typos or suggestions in improving the flow of the paper, including: 1. Page 1, Line 8 - 9 (and other locations throughout paper). When the name of the functional group and then the functional group is listed, it would be easier to read it like alcohol (COH) instead of alcohol COH. Also, it should only be defined once in the paper, and use the short hand for the rest of the paper.

2. Page 2, Line 35. Replace semi-colon with and.

3. Page 8, Line 18. St. Marks, Florida instead of St. Marks (Florida).

4. Page 8, Line 28-29. Hard to tell if you have too many penalty in the sentence.

5. Page 10, Line 27. EDF should be capitalized for consistency.

6. Page 11, Fig. 5 caption: Please refer to Fig. 4 so the read knows where segment one and two are coming from.

7. Page 14, Line 7. Space between period and end of sentence

8. Page 14, Line 8. No period at the end of sentence

9. Page 14, Line 20. Are the units supposed to be umoles/cm<sup>2</sup>? Slightly confused and wanted clarification, as you had just stated how you converted everything to ug/m<sup>3</sup>, and the values in Fig. 7 are ug/m<sup>3</sup>.

10. Page 14, Line 25. OM/OC is a ratio, not mass. Not sure why there is mass after

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OM/OC.

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-332, 2018.

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