

Interactive comment on “The Small Whiskbroom Imager for atmospheric composition monitoring (SWING) and its operations from an Unmanned Aerial Vehicle (UAV) during the AROMAT campaign” by Alexis Merlaud et al.

Anonymous Referee #1

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The manuscript by Merlaud et al. describes the retrieval of NO₂ and H₂O near a power plant from a small unmanned aerial vehicle. The paper describes in detail the instrument set up and data analysis procedures. It fits very well within the scope of AMT.

General comments:

The manuscript details very well the instrument, data analysis and its application during the AROMAT campaign, which makes it a great resource for people working with

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similar instruments. Measurement capability and errors are well described, however the conclusions miss a discussion on suitability of the SWING payload as air quality monitoring tool. Though it is obvious that losing the auto pilot option presented a major shortcoming for the AROMAT mission, the manuscript would strongly benefit from a discussion on what has been learned from this campaign on the suitability for more regular monitoring missions and what are the points that are being addressed in the next campaign. Please also explain how the H₂O measurements fit into this greater picture.

Overall this paper is well suited for AMT and I recommend publication after extension of the conclusion section.

Specific comments:

Abstract: please include the purpose of the AROMAT campaign, e.g. testing payload feasibility

p.2., line 16ff: paragraph could be shortened, since focus is on unmanned vehicles. Since references are not complete, I recommend using “e.g.” for citations.

p.2. line 32, please consider citing a newer reference

Figure 4: please define or omit “golden day”

Technical corrections:

P1., line 14 and ff: “molec.cm-2” Is this proper AMT style or should it be molec. x cm-2?

p.2, line 4: “wingspan wider than”

p.5., line 10: “280m” is missing space

p.7, line 5: remove “)”