

Interactive comment on “Quantitative capabilities of STXM to measure spatially resolved organic volume fractions of mixed organic/inorganic particle” by Matthew Fraund et al.

Anonymous Referee #2

Received and published: 11 December 2018

Quantitative capabilities of STXM to measure spatially resolved organic volume fractions of mixed organic/inorganic particles

Fraund et al.,

The study tested STXM to determine organic volume fraction (OVF) in individual particles generated from the lab solutions with 10:1, 1:1, and 1:10 mass ratios (I/O). In recent and near future, STXM is very useful method to study mixing state of individual particles and quantified different light components (containing C, N, O). They studied many different particles and made statistics of STXM data. Finally, they found that the OVF of the organic rich aerosols deviated from the bulk OVF by less than 1%, while the

C1

inorganic rich aerosols deviated by about 1%. These results are helpful to explain the data from STXM in the future. As I noticed that the authors shared their code in Github to transfer the image pixel into organic volume fraction as shown in Figure 2. These code will be useful for the potential user of STXM. I might accept this paper after one minor comments.

L24 compositons, impacts P8L16-20 Posfai et al., (year), Buseck et al., (Year), wrong formation here P7L20 deleted : P12 L3 deleted :

In conclusion section: I would like recommend the authors shorten it. The current one is too long. Seemly, the direct result should be introduced. The first background information should be moved to induction part.

Fig. 1. Drying Tubes. I think that the tube should be one central tube in the dryer instead of all the materials in the dryer. Please check the schematic and make sure it is right. What are blue materials?

Is that possible for authors make Matlab code as the zip. file as supplement associated with the paper in AMT? That would be convenient for the potential user. If the author can provide one simply introduction to process the data, that would be perfect.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-351, 2018.

C2