

Interactive comment on “Measurement techniques of identifying and quantifying sulfur compounds in fog and cloud water” by Eleni Dovrou et al.

Anonymous Referee #3

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General This is an interesting contribution as to the problem to better differentiate between S(IV) and S(VI) species in PM analysis, when performed through AMS measurements.

I feel it is right in the centre of papers of interest for AMT.

Generally, the paper could a bit more reference to available offline analysis work.

I think this paper could be accepted for publication in AMT subject to arevision somewhere between minor and major.

Details

Title: The title as it stands now is very broad. Mayb it could be phrased a bit more

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specific ? Wouldn't it make sense to clearly mention HMS ?

Introduction: It covers quite soome aspects, but at times there could be some more coverage. Maybe the authors can check again, HMS has been discussed a bit more often.

Page 3, section 1.2: I find it starngethat here the very successfully applied CE (capillary electrophoretic) separation and determination is not described. This is a mayor flaw and needs to be corrected. See Scheinhardt et al ., but especially references therein, Kramberger et al.

Page 5, line 29ff : For MSA you should possibly reference Huang, Shan, et al. "Latitudinal and seasonal distribution of particulate MSA over the Atlantic using a validated quantification method with HR-ToF-AMS." Environmental science & technology 51.1 (2016): 418-426.

Page 6, section 3.1.: Maybe it would be good to carry the conclusion of this section into the abstract: It is very difficult if not even impossible to identify or even quantify HMS through AMS only.

Also, the HPLC method presented here does not fully convince. Please give numbers of merit for it and compare to all existing offline analytical techniques. Could you discuss wether AMS paralleled by filter sampling and CE analysis wouldn't be a valuable option ? In this view, the discussion at the end of the paper should be widened.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-127, 2019.

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