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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Quantitative assessment of organosulfates in size-segregated rural fine aerosol" *by* H. Lukács et al.

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The following additional specific comments should be addressed in the revision of the manuscript:

Page 6828 - lines 21 - 24: It is relevant to mention that the high resolution MS techniques were used in combination with ESI:

"ESI in combination with ultra high ...."

"Similarly, ESI in combination with ...."

Page 6882 - line 27 through page 6829 - line 2: The authors write: "It is very likely that under ambient conditions volatile organic compounds other than those studied

in the laboratory (including other monoterpenes, sesquiterpenes, or aromatic compounds) are able to produce particle-phase organosulfates and thus contribute to SOA." It would be appropriate to mention here that there is evidence that oxidation products of plant leaf volatiles (e.g. 3-Z-hexenal) and of unsaturated fatty acids also produce particle-phase organosulfates. Ref.: Gómez-González et al.: Characterization of organosulfates from the photooxidation of isoprene and unsaturated fatty acids in ambient aerosol using liquid chromatography/(-)electrospray ionization mass spectrometry, J. Mass Spectrom. 43, 371-382, 2008.

Page 6833 - line 3 - section on "Estimation of uncertainties": The uncertainty analysis of the IC and XRF data is unclear. The authors only mention RSD values for those data, but they fail to explain how these RSD values were obtained and which uncertainty/ies is/are included in the RSD values. A proper uncertainty analysis should be made and the significance of the difference between the sulfur data from XRF and IC should be indicated.

Page 6843 - Fig. 2: A comment about this figure was already made by another referee (Y. Iinuma) and an anonymous referee, with which I fully agree. The figure shows smooth size distributions. However, the Berner impactor used has only 6 stages in the size range displayed in this figure. The authors should display the original concentration data for the stages and, in addition, it should be explained how the smooth size distributions were obtained.

Technical corrections:

Page 6827 - line 26 and page 6828 - lines 15, 16, 18 and 19: abbreviations MS, LC-ESI-MS, FTIR, VOC and HULIS; abbreviations need to be defined the first time that they are used.

Page 6827 - line 4: ... in these fields, ...

Page 6827 - line 22: ... evidence ...

ACPD
8, S2984–S2986, 2008

Page 6832 - line 12: ... overlapping peaks ....

Page 6832 - line 28: ... 32 kV, ...

Page 6833 - line 5: Applying the Re plate ....

Page 6833 - line 18: ... was applied, ...

Page 6833 - line 19: ... 2 sets of samples.

Page 6833 - line 22: ... took into account ...

Page 6834 - line 4: ... each impactor stage.

Page 6834 - line 23: ...(Reemtsma et al., ...

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 6825, 2008.

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8, S2984–S2986, 2008

Interactive Comment