

# Aerosols characterization at Seiffen, Germany during winter 2008. Preliminary results

L. Poulain<sup>1</sup> and H. Herrmann<sup>1</sup>

<sup>1</sup>Leibniz Institute for Tropospheric Research, Permoserstr. 15, 04318, Leipzig, Germany

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An Aerodyne Aerosol Mass Spectrometer (AMS) was deployed at the city of Seiffen (GSP coord), Germany, in January 2008. The city of Seiffen is located at xxkm of Dresden in state of Saxes and is famous for the production of wood Christmas decorations. In winter time, mainly of the house is using wood burning as heating system. Thus, the city of Seiffen represents an interesting place for biomass burning aerosols characterization.

The AMS allows having real time measurements of the particle size distribution together with their chemical composition ([Canagaratna, *et al.*, 2007]). The instrument was connected to a PM2.5 inlet located in the corner of the house where the AMS was installed and at around 2.3 m above the ground level. Continuously sampling was performed from 10 January to 2 February 2008 with a time resolution of 5 min. Figure 1 shows the times series of organics, nitrate, sulphate, ammonium, and chloride mass concentration obtained during the campaign.

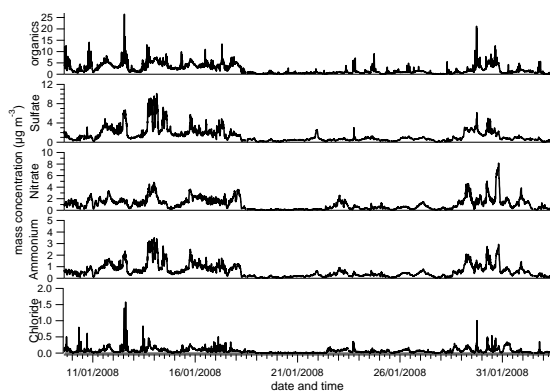


Figure 1. Time series of organics, sulphate, nitrate, ammonium and chloride

The periods of low aerosol concentrations are corresponding to the highest temperature register during the campaign and may corresponding to a decreasing of the aerosols emission from heating system. The fragments *mz*60 and *mz*73 are known to be tracers of biomass burning aerosols ([Schneider, *et al.*, 2006]). These two fragments show a very well correlation during most part of the time (not shown). However, period with higher fragment *mz*60 and low fragment *mz*73 are observed which corresponding to another kind of organic compounds than biomass burning.

The figure 2 shows the average mass size distribution from the entire campaign for organics, nitrate, sulphate, ammonium, chloride, and total signal which is corresponding to the sum of organics, sulphate, nitrate, ammonium and chloride mass concentration. Maximum of the size distribution for all compounds is at 510 nm except for sulfate which has a maximum at 570 nm.

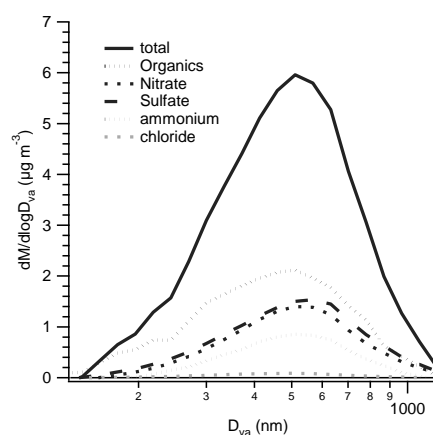


Figure 2: average mass size distribution over the entire campaign of organics, nitrate, sulphate, ammonium, chloride and the total mass size distribution.

The abstract should be submitted in **both WORD and PDF format plus the abstract classification form in WORD** using an email attachment to [eac2008@artion.com.gr](mailto:eac2008@artion.com.gr).

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Canagaratna, M. R., *et al.* (2007), *Mass Spectrometry Reviews*, 26, 185-222.

Schneider, J., *et al.* (2006), *International Journal of Mass Spectrometry*, 258, 37-49.