

Interactive comment on “Contribution of residential wood combustion to hourly winter aerosol in Northern Sweden determined by positive matrix factorization” by P. Krecl et al.

Anonymous Referee #1

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General comments

Paper Krecl et al. study relevant problem, "contribution of RWC to hourly winter aerosol". Paper is well structured and clear. Even though the results based on air quality measurements during relatively short period of wintertime (7 weeks), the paper gives reliable results and novel concept for the estimation of the contribution of different emission sources to outdoor aerosols. However, minor specific comments should be taken into consideration before the publication of this paper.

Specific comments

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Introduction/methodology (e.g. p.5729 line 5) Is it probable to add few sentences from the RWC in Lycksele? What kind of RWC appliances are used in Lycksele? How common are masonry heaters and stoves? This thing should also discuss in the result section: The wood boilers are used according to heat demand (round-the-clock), whereas wood stoves and masonry heaters are used in aesthetic or supplementary heating. Are the differences in the results between weekend and week due to the differences from the emissions from supplementary heating (wood stoves)? Etc.

p. 5729 line 18: Term "MLAC" is slightly odd. I suggest to use term "BC", Black Carbon, that is widely used in several studies.

p.5729 line 19. the references Krecl et al 2007a,b are not available for the readers. Thus, the optional details on aerosol measurements should add to this chapter. Krecl et al 2007a,b should to add to the reference list.

p. 5739 line 5. Why the authors assumed that particles were spherical? What kind of error this affect to the volume concentration between different factors?

Conclusions: Could the results be generalized? What the results mean generally? I think that in Lycksele, due to the local difference in altitude (valley) there occur air quality problems more than in many other places.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 5725, 2008.

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