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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Technical Note: In-situ quantification of aerosol sources and sinks over regional geographical scales" *by* G. Buzorius

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General comments

Manuscript by Buzorius is a continuation of the paper by Buzorius et al. (2006) where the aircraft eddy correlation flux measurement system was presented and verified. This paper enlarges on the aerosol particle flux measurement results. To me it seems that the results presented here could have been squeezed in to Buzorius et al. (2006), but the author have chosen to make two separate papers. Also, the Buzorius et al. (2006) is more technical paper than this which is written as a technical note. However, the results presented here are promising and interesting. Hence, I would recommend acceptance of the manuscript and have only a few minor comments.

Technical corrections

In general, the writing should be improved throughout.

Introduction: Page 1303, lines 13-17: few references are needed after both of these sentences.

Experimental setup: The purpose for the CPC modification should be mentioned here, although it could be guessed by experienced reader.

Methodology Page 1306, line 9: It seems that during the plumes aerosol concentration could change almost like a step function. Is the linear de-trending applicable and reasonable to use also in those situations?

Page 1306, line16: Repeating the measurements in the same area reduces the random errors only if the source/sink remains the same.

Page 1308, line 23: Abbreviation SST is not explained.

Results and discussion: Chapter 4.3 could be shortened. Now it mainly concentrates to present the results by others providing only average aerosol number concentration and flux range measured by the author.

Page 1316, line 7: Reformulate the sentence starting with "It is typical to observe..." It is fuzzy.

Conclusions and summary I wouldn't say that "This study increases the range of applications of EC..." and "The presented method is...", because the method was already presented in Buzorius et al. (2006).

References: Buzorius, G. (2001) is in volume 35, not 25.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 1301, 2009.