

## ***Interactive comment on “South African EUCAARI – measurements: a site with high atmospheric variability” by L. Laakso et al.***

**L. Laakso et al.**

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"This paper provides an overview of the measurements of chemical composition and physical properties of atmospheric aerosols made in a polluted region of South Africa. The paper mainly provides a description of the measurement site and the instrument setup. Analysis of observations is limited and is restricted to a 9-day period. A follow-on paper will analyse observations recorded over a longer time period."

Major comments

"The paper gives a clear and detailed overview of the observational setup and an introduction to the measurements taken combined with a limited analysis of the data. In my opinion the paper as it stands has no substantial flaws. However, the paper adds

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very little scientific knowledge and very limited data to the literature. Data analysis and interpretation is very limited, restricted predominantly by the short dataset presented. As a description of a measurement site the paper might warrant publication. However, the paper would be greatly improved by presenting a dataset recorded over a longer period combined with a more substantial analysis."

We fully agree with the comment (the original version was bad indeed and for several reasons out-of-date) and decided to use two years of data and focus on trace gases and basic aerosol optics. Separate articles on aerosol chemistry, vertical aerosol profiles, detailed aerosol optics and new particle formation are under preparation by different authors participating also in this paper. Due to slightly changed focus of the papers, most of the results section, conclusions and abstract were changed as well as most of the results figures.

Minor comments

"P30695, L10: "is is""

Corrected

"P30698, L19: Change "flowis" to "flow is""

Corrected

"P30705, L4: Dates here do not seem to match those in Figure 7."

Figure removed.

"P30705, L17: Are all the gas-phase species observed here impacted by wet scavenging?"

Removed

"P30705, L17: Missing space."

Corrected

"P30706, L8-L9: Please provide a reference for this statement."

Removed. A good basic reference would be e.g. "Slinn, W.G.N., 1983. Atmospheric Sciences and Power Production" 1979. Precipitation scavenging, Division of Biomedical Environmental Research, US Department, pp. 466–531 (Chapter 11)".

"P30707, L27: Please clarify what the range and number is parenthesis represent."

Removed.

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Interactive comment on Atmos. Chem. Phys. Discuss., 10, 30691, 2010.

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