

## ***Interactive comment on “Trace metal characterization of aerosol particles and cloud water during HCCT 2010” by K. W. Fomba et al.***

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Specific comments: 1. Page 10901, Line 9-14: Proper reference indicating role of trace metals influencing OH radical budget must be cited.

These references have been added: (Deguillaume et al., 2005; Spokes et al., 1994)

2. Page 10901-10902, Line 27-28, 1-2: Statement is not very clear. Kindly reword it.

The statement has been reworded to now read “Trace metal concentrations vary according to their sources. Crustal sources are usually found to strongly influence concentrations of trace metals such as Fe, Al, Ti and Mn”

3. Page 10910, Line 1-4: Fig. 2 shows scatter plot of Levoglucosan with K, Zn, Pb and C4656

As. Plots have 5 data points but there are 4 FCE. Is it only PM1.2?

Figures have been changed and now have 4 points. There was one point included from an event that was not included in the discussions. Yes, correlations are on PM 1.2 since the levoglucosan concentrations were found mainly in the fine mode.

4. Page 10910, Line 26-27: Correlations are NOT conserved for any metal. It is weaker at GB for all except Zn. Correlation coefficient for Ti is missing.

The sentence has been changed and the word “not” have been replaced with the word “changes” to read “However, changes in the correlations were observed as the air mass passed through the cloud at the mountain station before arriving at Gehlberg.”

The correlation coefficient of Ti was missing because there was no correlation of Ti with Lev at GB. However, to avoid ambiguity, Ti has been taken out of the table and the discussions with respect to Ti have been removed accordingly on page 11 lines 26-28 and Page 12 line 1.

5. Kindly mention the level of significance (p-values) for all correlation plots.

The p-values were less than 0.05. However, it should be acknowledged that the data points for these correlations are few and thus the conclusions based on these correlations have been revised and corresponding sentences have been made on page 11, lines 6 -7. The included text now reads:

“The p-values of these plots were less than 0.05. Nevertheless, since these correlations are based on statistically few data points their values are used to mainly indicate possible trends between these components. Source attributions are only made in cases where similar observations were reported elsewhere. ”

In addition the statements that suggested similar source regions based on the correlations have been removed, i.e. Page 12, 4-6 and Page 13 lines 6-8 and 9-17.

6. Pg 10911, Line 16-18: Proper reference must be cited for EC and OC emissions.

These citations (Herrmann et al., 2006; Saarikoski et al., 2008) have now been included.

7. Page 10918, Line 21: Table 1 and 3.

Table 2 has been replaced by Table 3.

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