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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Heterogeneous conversion of NO_2 and NO on HNO_3 treated soot surfaces" *by* J. Kleffmann and P. Wiesen

J. Kleffmann and P. Wiesen

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Reply to Anonymous Referee #3

We would like to thank referee #3 for his suggestions and clarifications which are addressed below.

Page 6752:

"made by pure PFA":

The Teflon PFA will be specified in the revised manuscript: "made by PFA (perfluoroalkoxy fluorocarbon) only (see Figure 1)."

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“caused by the”:

The sentence will be modified according to the referee’s suggestion.

Concentration of the HNO3 mixture:

The final concentration of the mixture was measured by ion chromatography with high accuracy and is specified in the manuscript, e.g. in figures 2 and 4. Calculating the HNO3 concentration based simply on thermodynamic models would lead to much higher uncertainties, caused by:

a) slowly decreasing HNO3 and H2O liquid phase concentrations in the source,

b) errors in the determination of the HNO3, H2SO4 and H2O liquid phase concentrations,

c) uncertainties of the models, which can be significant.

Page 6754:

The sentences will be modified according to the referee’s suggestion.

Page 6755:

The discussion of the discrepancies of the results of the study of Salgado Muñoz and Rossi and the other studies will be improved according to the suggestions of referees #1 and #2. We also would like to thank the referee for the additional possible reason for the discrepancy. However, since we have no experience with the detection of different NOy species by MS using electron impact and the possible errors, we would like to leave this as an open discussion among experts in this field.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 6747, 2004.