Atmos. Chem. Phys. Discuss., 2, S1134–S1135, 2002
www.atmos-chem-phys.org/acpd/2/S1134/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Atmospheric measurements of gas-phase HNO3 and SO2 using chemical ionization mass spectrometry during the MINATROC field campaign 2000 on Monte Cimone" *by* M. Hanke et al.

M. Hanke et al.

Received and published: 12 May 2003

Remark to comment 1:

Yes, the averaging over 30 minutes is sufficient and we explicitly addressed this subject in this section.

Remark to comment 2:

Fig. 8 has been changed and the discussion in the paper has been adapted to the figure. The re-fitting stuff has been dropped. With regard to the comparison of HNO3 and NOy this is not that easy. We tried to clarify this subject a little bit and added something to it, but, to be honest, we could not get any further. As Greg Huey sug-

Full Screen / Esc
Print Version
Interactive Discussion
Discussion Paper

gested it would have been easier if NOy was measured during the dust event, and then it might have been possible to get more out of this. But without the necessary gas-phase parameters, in particular NOy, which were not measured anymore after 30 June, I think there is not much more to conclude. Maybe, as G. Huey said, that the NOy inlet may not efficiently pass nitric acid, in particular in an atmosphere with high relative humidities. This, however, cannot be checked anymore. Now, more or less, it is rather difficult to find the answer after the experiment is over. Since this explanation is just a guess and we cannot prove it, we did not mention it in the paper. Regarding our experiment, we did everything to certify the quality of our data. This is also the reason why we focussed so much on the technical aspects of the experiment. Since this was the first ground-based deployment of our technique it is justified to look more closely at the technical details. As a solution for the NOy-HNO3 problem, we also suggested a way in which this problem could have been addressed in MINATROC2, so let us see. But for MINATROC 1 nothing can be done any more.

Remark to comment 3:

We agree and hence included a time series of the integrated surface area for particles $>$ 721 nm in Fig. 10.

Remark to comment 4:

Thanks for the advice. We tried to be more precise and changed Fig.3 and also reacted on the other minor remarks, please see revised text.

Interactive comment on Atmos. Chem. Phys. Discuss., 2, 2209, 2002.