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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Intercomparison of O_3 profiles observed by SCIAMACHY, ground based microwave and FTIR instruments" *by* M. Palm et al.

M. Palm et al.

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1. **The referee suggests, that the part about the comparison FTIR-SCIA should be removed.** After considering that the statistical basis for this result is insufficient (as stated in the publication) we decided to follow both the reviewers and postpone the FTIR-SCIAMACHY comparison to a later publication.

2.1. **The referee asks for an explanation of the reason why the "simulated comparison" is better than the direct comparison.** The reason is that the standard deviation of a direct comparison has the different altitude resolution to take into account. A better altitude resolution means that the gradients of the retrieved profile might be larger and hence there might be structures in the retrieved profile which get smoothed out in the low altitude resolution retrieval. This leads to the

fact that the deviations of the profiles might be larger without affecting the low altitude resolution profile.

2.2. The referee asks for the asymmetry of the two instruments and why the RAM-instruments are simulated using the SCIAMACHY retrieval instead the other way around. The main difference is the higher altitude resolution of the SCIAMACHY instrument. Because the SCIAMACHY instrument is able to resolve structures in the profile which are not to be expected in the RAM retrievals, it should actually reproduce the RAM-profile when simulated using a RAM-profile. An example of this will be included in the paper.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 911, 2005.