

## ***Interactive comment on “MIPAS detects Antarctic stratospheric belt of NAT PSCs caused by mountain waves” by M. Höpfner et al.***

**M. Höpfner et al.**

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We would like to thank referee 1 for the suggestions.

1. *However, as the contents of the paper strongly depend on the results presented in the companion paper [Höpfner et al.(2005)], I suggest to link the publication of both papers. It would not make sense to publish this one, while the previous one is still under review.*

We have submitted the two manuscripts as companion papers and, thus, we agree with the referee.

2. *for 1 Introduction: line 18: explain "NOy"*

Done.

3. *for 2 Identification ...: line 17: "... is used in the plots to follow to depict the location ..." has two verbs*

Corrected.

4. *for 3 Antarctic NAT belt: page 10730 line 19/20: can a reference be given for the "initial high-latitude mid-May profiles of H<sub>2</sub>O and HNO<sub>3</sub> ?*

These profiles have been derived with the scientific MIPAS retrieval processor at IMK. The mid-May profiles have not been published. Thus, we have added in the revised manuscript references where the retrieval of H<sub>2</sub>O [Milz et al.(2005)] and HNO<sub>3</sub> [Mengistu Tsidu et al.(2005)] from MIPAS is described. IMK retrieved MIPAS trace gas profiles are available at <http://www-imk.fzk.de/asf/ame/envisat-data/>.

## References

[Höpfner et al.(2005)] Höpfner, M., Luo, B. P., Massoli, P., Cairo, F., Spang, R., Snels, M., Donfrancesco, G. D., Stiller, G., von Clarmann, T., Fischer, H., , and Biermann, U.: Spectroscopic evidence for  $\beta$ -NAT, STS, and ice in MIPAS infrared limb emission measurements of polar stratospheric clouds, Atmos. Chem. Phys. Discuss., 2005, <http://direct.sref.org/1680-7375/acpd/2005-5-10685> SRef-ID: 1680-7375/acpd/2005-5-10685.

[Mengistu Tsidu et al.(2005)] Mengistu Tsidu, G., Stiller, G. P., von Clarmann, T., Funke, B., Höpfner, M., Fischer, H., Glatthor, N., Grabowski, U., Kellmann, S., Kiefer, M., Linden, A., López-Puertas, M., Milz, M., Steck, T., and Wang, D. Y.: NO<sub>y</sub> from Michelson Interferometer for Passive Atmospheric Sounding on Environmental

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Satellite during the Southern Hemisphere polar vortex split in September/October 2002, *J. Geophys. Res.*, 110(D11), D11301, doi:10.1029/2004JD005322, 2005.

[Milz et al.(2005)] Milz, M., von Clarmann, T., Fischer, H., Glatthor, N., Grabowski, U., Höpfner, M., Kellmann, S., Kiefer, M., Linden, A., Mengistu Tsidu, G., Steck, T., Stiller, G. P., Funke, B., López-Puertas, M., and Koukouli, M. E.: Water vapor distributions measured with the Michelson Interferometer for Passive Atmospheric Sounding on board Envisat (MIPAS/Envisat), *J. Geophys. Res.*, 110, D24307, doi:10.1029/2005JD005973, 2005.

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