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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Influence of different convection parameterisations in a GCM" *by* H. Tost et al.

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We thank the two anonymous referees for their valuable and supporting comments, to which we reply in the following:

Comments to Referee No. 1:

We thank the referee for the very positive review. Indeed, studies focusing on the vertical transport of chemical tracers and their wet removal are in progress.

Comments to Referee No. 2:

1) We thank the referee for poiting us to the TRMM data. We analysed the 3A25

dataset with respect to the distinction of large scale and convective precipitation. Furthermore, we compared the spatial patterns of this independent observation dataset with our model simulations. The results will be added/changed in Table 3 and Table 4. Furthermore, we include an additional paragraph for the TRMM data versus model result analysis in the revised manuscript as well as a short description of the dataset.
2) As we indicated in the manuscript the reponse under 'disturbed conditions' goes beyond the scope of this work. However, the mentioned questions will be addressed in future studies.

3) Technical remarks:
1) The average over the whole grid box is meant, not taking the subgrid scale variability into account. We will clarify this.
2) This will be corrected.
3) The Tiedtke convection scheme in general was meant, without differentiating between T1, T2 or T3 (in case this refers to P9231, L3). It will be written out to avoid this confusion.
4) This will be corrected.
5) The Figures have been substantially larger at the submission state, and hopefully will be bigger in the final ACP version, but have been shrinked for the ACPD versions by the production office.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 9213, 2006.