Atmos. Chem. Phys. Discuss., 2, S400–S401, 2002 www.atmos-chem-phys.org/acpd/2/S400/ © European Geophysical Society 2002



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Interactive Comment

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Interactive comment on "Redistribution of trace gases by convective clouds – mixed-phase processes" by Y. Yin et al.

Y. Yin et al.

Received and published: 12 September 2002

Reply to Specific comments:

Due to the limitation of available computational resources and imperfect knowledge of some of the microphysical processes, simplification or parameterisation is usually required in simulating a cloud or cloud system, depending on the subject of study. Choosing a model with fewer than three dimensions sacrifices the reality of the cloud dynamic structure, but often still gives insight into the cloud microphysical and chemical details. Since we mainly focus on the impact of clouds with different microphysical structure (by comparing clouds developed under different initial conditions) and parameters such as retention coefficient, on the transport of trace gases, the conclusion of this study should not be influenced by the choice of the dynamic model. But it should be borne in mind that a numerical model with dimensions fewer than three or sometimes even a three-dimensional model cannot reproduce the real structure of a natural cloud.

Reply to Technical corrections:

Dissipation is correct and correctly spelt.

Interactive comment on Atmos. Chem. Phys. Discuss., 2, 875, 2002.

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