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## **ACPD**

5, S3713-S3714, 2005

Interactive Comment

## Interactive comment on "The direct inversion method for data assimilation using isentropic tracer advection" by M. N. Juckes

M. N. Juckes

Received and published: 9 November 2005

Thankyou for the detailed and useful criticism.

I would be grateful for clarification on what you mean by "more established data assimilation approaches" (4th para, S2981)? Specific comments later in your review refer to weak-constraint 4D-Var, but that is hardly well established (though it is much talked about). The main difference from strong constraint 4D-Var, on the other hand, is that there is some allowance for model error within the analysis window. Would a clearer statement of this fact answer your concern here?

I must also comment that the idea of "too much detail", which both yourself and referee #3 raise, is new to me. Could you refer me to some guidelines on the recommended

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level of detail for scientific literature?

Finally, the paper is primarily about evaluation of MIPAS data because extensive efforts to explain this work to colleagues in the UK convinced me that there would be no interest in a new method without some demonstration of applicability. Hence, the method is presented through an application.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 8879, 2005.

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