Atmos. Chem. Phys. Discuss., 5, S4350–S4351, 2005
www.atmos-chem-phys.org/acpd/5/S4350/
European Geosciences Union

Atmospheric Chemistry and Physics Discussions

Interactive comment on "The effect of systematic measurement errors on atmospheric CO_2 inversions: a quantitative assessment" *by* C. Rödenbeck et al.

C. Rödenbeck et al.

Received and published: 7 December 2005

We would like to thank the anonymous referee 2 for her/his points, which helped us to clarify the manuscript. We adjusted several formulations according to the referee's suggestions.

Specific replies:

Ad P8982 - line 8:
The statement refers to CO2 inversion studies based on flask or in-situ measurements published up to now. Many authors indeed use a general data covariance matrix in their equations and identify off-diagonal elements as describing data correlations, but

we are not aware of any such publication already using non-zero off-diagonal elements.

Ad P8984 - line 12:
As stated further down (lines 21ff), testing the influence of the chosen smoothing is one of the incentives for assessement A2.

Ad Figure 4:
As soon as the applied concentration differences imply changes in the total atmospheric carbon content, a non-zero global flux is implied (cmp. footnote 5 on page 8990).

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 8979, 2005.