

Interactive  
Comment

## ***Interactive comment on* “Evaluation of various observing systems for the global monitoring of CO<sub>2</sub> surface fluxes” by K. Hungershoefer et al.**

### **Anonymous Referee #3**

Received and published: 14 September 2010

The authors have done an excellent job in writing a clear comprehensive manuscript comparing various existing and future CO<sub>2</sub> observing systems. In my opinion the comparison is fair and most caveats of the used methodology have been carefully explained as well. I therefore fully recommend publication of the manuscript. I have only a few minor items that need clarification.

\* It would be nice to get a better idea of the geographical placement of the hypothetical surface networks. Is it possible to construct a plot showing this? \* I was left wondering how the MODIS cloud field was used for the A-SCOPE simulation. The active systems have very small footprints (ca. 100 by 100 meter), but need some averaging to get enough signal-to-noise for a good retrieval. This means that in clear skies you would get an effective field-of-view of say 100 meter by 50 km. In partially cloudy skies there

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



are less clear footprints and therefore the effective field-of-view would be extended to say 100 meter by 100 km. Is this taken into account, both the change in effective field-of-view and the capability to still provide a measurement in partial cloudy fields? \* What is the rationale for using a different error model for GOSAT with respect to OCO and SCIA? For a study like this, it might not be the best choice to purely rely on the estimate given by the satellite mission temas.

---

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 18561, 2010.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper