

***Interactive comment on “SCIAMACHY WFM-DOAS
XCO₂: comparison with CarbonTracker XCO₂
focusing on aerosols and thin clouds” by
J. Heymann et al.***

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Dear authors

I find your paper interesting and understandably written. In particular, I like the results (and the description thereof) of the cloud detection algorithm and the viewing geometry correction. These are really important steps.

I have but two question about the correlation study: How come the (spatial and temporal) correlation of the XCO₂ differences with COD is stronger, and also more significant, in the Southern hemisphere? Do you have any (quantitative or intuitive) explanation?

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Or is this hemispheric discrepancy not significant at all?

And is it justified to interpret Table 5 as an evidence that aerosols have a weaker impact on the retrieved XCO₂ than clouds? I'm a little confused why (since on regional scales the correlation with COD is stronger) on a global scale the only significant correlation is the temporal correlation with aerosol OT.

Kind regards

Andre Galli

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