

***Interactive comment on “Global emissions of non-methane hydrocarbons deduced from SCIAMACHY formaldehyde columns through 2003–2006” by T. Stavrakou et al.***

**T. Stavrakou et al.**

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Dear colleague,

On behalf of all authors, I would first like to thank you for your comment, which gives us the opportunity to clarify the point on the absorption cross sections of formaldehyde used in the retrieval.

In the spectral interval used for the HCHO retrieval (320–360 nm), the Cantrell et al. (1990) absorption cross sections are by 9% lower than the recommended values by Meller and Moortgat (2000). The use of the Cantrell dataset would therefore lead to a overestimation by 9% of the derived HCHO slant columns. However, in our retrieval,

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the Cantrell et al. (1990) cross section has been shifted by 0.08 nm. This shift leads to a reduction by 8% of the obtained HCHO slant column compared to the column obtained when using the Cantrell et al. (1990) cross section. As a result, the HCHO columns obtained with the shifted Cantrell cross section are found to be within 2% of the columns derived using the Meller and Moortgat (2000) dataset. A comment will be added in the revised version of the paper.

More details and figures are available in the supplementary material joined with the present reply.

References

Cantrell C. A., Davidson, J. A., McDaniel, A. H., Shetter, R. E., and Calvert, J. G.: Temperature-dependent formaldehyde cross sections in the near-ultraviolet spectral region, *J. Phys. Chem*, 94, 3902–3908, 1990.

Meller, R. and Moortgat, G. K.: Temperature dependence of the absorption cross sections of formaldehyde between 223 and 323 K in the wavelength range 225–375 nm, *J. Geophys. Res.*, 201(D6), 7089–7101, 2000.

Sincerely,

T. Stavrakou

Please also note the Supplement to this comment.

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Interactive comment on Atmos. Chem. Phys. Discuss., 9, 4609, 2009.