

Interactive comment on “Greenhouse gas relationships in the Indian summer monsoon plume measured by the CARIBIC passenger aircraft” by T. J. Schuck et al.

T. J. Schuck et al.

tanja.schuck@mpic.de

Received and published: 30 March 2010

First, we would like to thank Xiaozhen Xiong for the comment 'Methane plume from atmospheric Infrared sounder (AIRS)' on our manuscript.

It was pointed out in the comment that in the manuscript our statement about the AIRS observations was not entirely correct and did not properly account for the sensitivity limitations of the satellite instrument.

When revising the manuscript we will take this into account. As suggested by Xiaozhen Xiong we will modify Lines 16-22 on page 2034.

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The previous text:

although the model cannot accurately reproduce the position of the plume (Xiong et al., 2009). Satellite instruments, despite their limited vertical resolution, can provide information on the altitude range of the observed tracer enhancements. The observed monsoon plume in CH₄ is for example reported by the AIRS instrument to extend from 500 hPa to 150 hPa (Xiong et al., 2009), the MOZART model predicts a vertical extension from 300–150 hPa (Park et al., 2004).

then will read:

although the plume position reproduced from the model is somewhat different from the AIRS observation. Satellite instruments, despite their limited vertical resolution, can provide information on the altitude range of the observed tracer enhancements. The observed monsoon plume in CH₄ is for example reported by the AIRS instrument to be situated in the altitude interval from 500 hPa to 150 hPa (Xiong et al., 2009), the MOZART model predicts a vertical extension from ~300 -150 hPa (Park et al., 2004).

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 2031, 2010.

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