

***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

We thank Referee 1 for the reviewing of our manuscript "Greenhouse gas relationships in the Indian summer monsoon plume measured by the CARIBIC II passenger aircraft".

In the process of revising the manuscript we will consider the referee's suggestion about the so-called Middle-East ozone maximum that is briefly mentioned in the section 4.3 (Latitudinal distributions of H<sub>2</sub>O and O<sub>3</sub>) of the text. The referee pointed out that while tropospheric ozone production in the monsoon outflow may play an important role, the influx of stratospheric ozone still remains an important process, especially in the specific situation of sampling in the UT/LS region.

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However, the focus of our work is on the monsoon anticyclone itself and on greenhouse gases, and therefore a detailed discussion of the influence of the monsoon on the middle east O<sub>3</sub> maximum is beyond the scope of the manuscript. Taking into account the referee's above remark, we intend to change the lines 11-14 on page 2046

*Model simulations showed that the southern part of the O<sub>3</sub> maximum is dominated by the easterly outflow of the Asian monsoon anticyclone, and it was proposed that the main contribution is from tropospheric O<sub>3</sub> production (Li et al., 2001; Liu et al., 2009).*

to:

*It was proposed that besides inmixing of stratospheric air tropospheric O<sub>3</sub>, production from precursors carried by the easterly tropical jet may be a relevant process (Li et al., 2001; Liu et al., 2009).*

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

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