

## ***Interactive comment on “Modelling study of the impact of deep convection on the UTLS air composition – Part I: Analysis of ozone precursors” by V. Marécal et al.***

T. Karl

tomkarl@ucar.edu

Received and published: 26 September 2005

It is interesting to see that the model calculates isoprene concentrations on the order of 0.1–1 ppt in the lower atmosphere (e.g. @ 3 km). Typical isoprene concentrations measured close to this geographical region should be several hundred ppt. (e.g. ABLE 2). On a morning transfer flight (08-27-04, 10:00 a.m to 12:00 pm LT) from Sao Jose dos Campos to Cuiaba we observed isoprene concentrations that were on the order of 100 to 300 pptv at 3 km altitude (up to a factor of 1000+ higher than what is shown in Figure 9). It is expected that afternoon isoprene concentrations are even higher. Mea-

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surements by Trostdorf et al. (<http://www.copernicus.org/EGU/acp/acpd/4/1291/acpd-4-1291.htm>) show that the difference between wet and dry season isoprene emissions from Brazilian vegetation is on the order of 2-3. Thus regardless of the season, it appears that either the emissions used in the RAMS model are substantially underestimated, the vertical mixing schemes have problems modeling very reactive species or the lumped chemistry mechanism is not able to reproduce realistic OH fields in the model domain. It would help to point towards future experimental needs that could help addressing these issues.

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Interactive comment on Atmos. Chem. Phys. Discuss., 5, 9127, 2005.

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