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ACPD 7, S2507–S2508, 2007

> Interactive Comment

Interactive comment on "Evaluation of balloon and satellite water vapour measurements in theSouthern tropical UTLS during the HIBISCUS campaign" by N. Montoux et al.

Anonymous Referee #4

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In general it seems to me that the authors have tried to write two articles at the same time: one about balloon measurements of water vapour during HIBISCUS and one about an intercomparison of satellite instruments measuring water vapour. Unfortunately, this way both topics are not covered very well. In fact, we learn very little about the actual balloon measurements. This is very sad because I guess that the authors would be very competent to analyze what they saw during these flights and put that into context using their REPROBUS model. On the other hand, the intercomparison of the satellite instruments provides only the most basic information like zonal mean biases (some of which are already known) and variability in a very limited geographical range. The article would improve much if the authors would decide to cover one of the



two topics more extensively and reduce or drop the other one.

The other reviewers have already raised many points that I do not want to repeat. Here are some that have not been mentioned yet:

- in figures 1 and 2, was the much lower vertical resolution of the remote sensing instruments (i.e. their averaging kernels) taken into account in any way? It certainly does not look like that but it may change the result.
- it would be nice if the year would be given for all dates provided in the article. It took me a while to realize that unfortunately there is probably no MLS/AURA data for this campaign in 2004. Too bad, it would not have been limited to cloudless conditions.
- given the limited number of co-locations with the different satellite instruments it would probably be a better approach to compare all the balloon and satellite instruments against a common reference data set. REPROBUS might be a good candidate for this and the double differencing technique suggested by Hocke et al. (ACPD 7, 5053-5098, 2007) may offer a useful approach to achieve this.

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