Atmos. Chem. Phys. Discuss., 7, S3137–S3138, 2007
www.atmos-chem-phys-discuss.net/7/S3137/2007/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Validation of MIPAS HNO_3 operational data" *by* D. Y. Wang et al.

Anonymous Referee #2

Received and published: 14 July 2007

This paper (40 printed pages) contains a lot of work.

However, compared to the paper by Vigouroux et al. (2007) the main difference is the use of the HITRAN2004 database by all groups, it seems. I am surprised that this leads to two different papers with a lot of similar text in both papers. This does not improve the quality of ACPD but certainly the number of references, which is a regrettable trend.

In particular I would expect a much more detailed interpretation of the results, and not just explaining that there are horizontal (and other) sampling differences between the instruments used.

There are 5 pages of "conclusions" but they can be easily boiled down to a few phrases - and I would actually prefer a few clear conclusion instead of such a long text including the dates and times (again!) of the experiments.

I cannot understand that the authors concluded that the difference wrt ODIN is from partition functions and that this is just to be optimized ("work is underway at the time of writing this article"). Is this an ESA report that is printed as ACPD paper ?! Besides, what is this cryptic "This has to do with the mix of HITRAN partition functions and JPL intensities" - lots of papers have been written to deal with that in particular related to HNO3, so it is not acceptable to publish such an "analysis".

In the same line "These instruments use some overlapped spectral lines/ranges, and that wouldn't be so astonishing to have a better agreement." is again a really poor phrase, I am absolutely shocked to see that in a paper with 37 (!) authors, most of them well experienced, leading, scientists. What happened here?! Did they all agree on this "conclusion"?

So although this is a lot of work, I regret to say that the science is not strong at all, and there is a lot of repetition compared to previous work. The spectroscopic differences are not well discussed, and where the use of coherent reference data would (should) have produced new results and interpretations, the authors conclude simply with a few very weak standard phrases and no scientific interpretations at all.

In conclusion, I do not understand what the scientific goal of this paper is, and I regret to say that if ACPD wishes to keep its standards high, the paper should be revised, in particular the conclusions, to provide more scientific interpretations of this great amount of measurements and work.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 5173, 2007.

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7, S3137–S3138, 2007

Interactive Comment