

Interactive comment on “Validation of water vapour profiles (version 13) retrieved by the IMK/IAA scientific retrieval processor based on full resolution spectra measured by MIPAS on board Envisat” by M. Milz et al.

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We would like to thank the Editor for the helpful and constructive comments.
Please find below our answers addressing the reviewer’s comments.

Editor comments

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Editor comment:

As concluded by the three reviewers the paper will certainly deserve publication in AMT after taking their respective points and revisiting the presentation of the many plots, perhaps also of slightly reduced number and possibly colour for some of them, as suggested.

Answer:

We will redo the plots and if possible combine related figures including colors if applicable.

As pointed out in the replies to the reviewers, several inconsistencies between plots and text were introduced during the writing process. In this period various plots had to be redone a few times as the number of used measurements permanently increased during the reprocessing with the new retrieval setup (Version 13) and text and plots partly diverged.

The datasets available at IMK for the comparison was extended since the submission of the manuscript to AMTD. For two of the instruments (ACE-FTS and MIAWARA), the new figures are now based on an increased number of collocations which means a broader basis for statistical analysis. However, the results with respect to bias and precision analysis and the according figures do not change noteworthy. Also the conclusions of the paper remain the same.

Editor comment:

But I think the discussion and conclusion would need also some more efforts. Indeed it must be recognised that the performances of all instruments with which MIPAS is compared are not equivalent.

Answer:

The Editor is right, we missed to include this important information for the used instruments and will correct the text accordingly

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Editor comment:

Some of the comparisons are obviously more significant than others but since no indication is given on the respective performances of the measurements, this is difficult to understand. I would thus recommend:

a) to include estimates of precision and accuracy provided by the authors or better by relevant validation studies (and references) in the description of each instrument;

Answer:

We will add information and precision on the individual instruments

Editor comment:

b) to summarize these in a table at the end of the paper together with MIPAS relative biases and precision estimates

Answer:

Such a table will be added to the according section of the manuscript

Editor comment:

c) to revisit the discussion and conclusions from these.

Answer:

The according parts will be adapted to address the modifications

Interactive comment on Atmos. Meas. Tech. Discuss., 2, 489, 2009.

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