

Interactive
Comment

Interactive comment on “Maximum likelihood representation of MIPAS profiles” by T. von Clarmann et al.

Anonymous Referee #1

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Review of "Maximum likelihood representation of MIPAS profiles" by T. von Clarmann et al.

The manuscript presents "Maximum likelihood representation of MIPAS profiles" by T. von Clarmann et al. (amt-2015-50) that can provide a user-friendly and virtually unconstrained representation of remotely sensed vertical profiles of atmospheric constituents. The methods appear appropriate and the paper is well written. Therefore, the study is of interest to the reader community of AMT, and I recommend publication after considering the following two comments.

General comments

1. This study proposes a very useful alternative to OE products. In order to show the

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accuracy of the unconstrained retrieval, it might be good to provide the comparison with ground-based observations highly accurate. You might want to add a new figure of the comparison in the manuscript.

2. As authors pointed out in the manuscript, the content of a priori information in OE products can lead to unsolved problems in analyses of trend estimates and annual cycles. It would be great to show the difference of the trend estimates or annual cycles derived from the regular and unconstrained retrievals in order to demonstrate how much significant the problems could be, if possible.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 2501, 2015.

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