

## ***Interactive comment on “Validation of MIPAS IMK/IAA V5R\_O3\_224 ozone profiles” by A. Laeng et al.***

### **Anonymous Referee #2**

Received and published: 4 July 2014

#### General comments:

"Validation of MIPAS IMK/IAA V5R\_O3\_224 ozone profiles" by A. Laeng, shows the results of MIPAS ozone profile comparisons with a wide array of space, ground and balloon based instruments. The methodology used is sound and the results are delivered in a clear and organized way. Users of MIPAS O3 data will find this paper very useful. That said, the issue regarding the impact of the higher natural variability on the residual variability at high latitudes, and the temporal aspects of the bias could be explored further and some of the writing needs corrections.

1)Section 5 and more specifically p 3965, begs for an answer regarding the impact of the natural variability on the RV and I feel that this could be easily resolved with the

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data at hand using geographical selection criteria.

2)p 3967, from line 8 onwards: This section could deal with some elaboration. Questions that arise are: What is the impact of latitude on this observed seasonal bias? Can this be better quantified? At the end of the paragraph (last sentence) you should also state that you observe no long term deviations of the bias (if verified!)

3)p 3971, line 7: "less than about 3%". When using less or greater than it is best to use the real limit instead of a vague one

4)Fig 4: Heading and color scale notations are very small

5)Fig 7: Given that a key feature in this plot are the deviations from the 1:1 ration, it would be helpful to also plot a fit through the data. For ACE and SAGE one can discern some deviations but for MLS and OSIRIS (higher scatter), this becomes more difficult

6)Conclusions: A statement on the temporal variability of the bias should be added.

#### minor comments/typos:

p 3956, line 1: remove "Understanding such ozone fluctuations"

p 3963, line 22: ...remaining...

p 3963, line 22: ..., having residual variance too large,... reword

p 3965, line 1: remove "of"

p 3965, line 1: ...occur at high...

p 3968, line 4: "From these observations the optimal statistical solution is found". Please reword as it is too vague

p 3968, line 24:...atmosph-

p 3969, line 5: But unlike in satellite case,... reword

p 3969, line 6: ...in the relative bias plots...

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p 3970, line 1: for the collocated year or all years combined?

p 3970, line 7: the closest... in time or space?

p 3970, line 9: ... in mind though that it is

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Interactive comment on Atmos. Meas. Tech. Discuss., 7, 3953, 2014.

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