

## ***Interactive comment on “Level 1b error budget for MIPAS on ENVISAT” by Anne Kleinert et al.***

### **Anonymous Referee #1**

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I find the work described in this paper complete and detailed enough to be of a great usefulness for the MIPAS data users community.

The presentation is very clear, but I find that in some figures the choice of colors (some of which are really similar), line styles and symbols do not help readability, specially in the most "crowded" plots in which several lines are plotted together.

A technical remark: in section 2 MIPAS is described as a Michelson interferometer, but I'd define it more of a Mach-Zehnder design.

At the end of section 2 I'd use "trade-off" instead of "trade".

In section 3 the authors refer to a "simple correction algorithm" for the spike correction: it would be desirable, if possible, to have more detail, or a literature reference.

Page 13, line 30: the phrasing is not clear, possibly the comma after "assumption"

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needs to be removed.

Figure 13: it seems that the colors in the caption are not in agreement with the ones used in the figure.

Last, a more general remark about section 6.2 (and the paper in general): there is a lot of detail in the characterization and description of the measured contributions to the error, but in several places I find that some kind of physical interpretation of the measured phenomena (e.g. seasonal cycles) could be provided together with the characterization. In section 6.2 there is a couple of sentences providing an interpretation for some of the measured effects, but I think the work could gain a lot of significance if this could be expanded and applied in each case where a significant and characteristic effect is detected.

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