

Interactive comment on “A large-area blackbody for inflight calibration of an infrared interferometer deployed on board a long-duration balloon for stratospheric research” by Friedhelm Olschewski et al.

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Thanks to referee #1 for the helpful comments. Please find my response below:

(1) Please give a brief background-history about what kind of calibrators have been used in past similar instruments (for example, MIPAS Balloon)

- A brief background-history has been added as follows: “It is common practice for balloon-borne FTS instruments to establish onboard two-point calibration procedures using deep space as one reference point and a temperature stabilized blackbody {te02,

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friedl-vallon04}. That approach ensures the consistency of the measurements over a long period of time in a variable environment with changing detector sensitivity due to temperature alteration of the instrument.”

(2) Adding an introduction about the science objectives of balloon-borne GLORIA may help the readers to understand why careful radiance calibration is required. I understand that this paper does not aim at discussing scientific aspects of the GLORIA mission, but still I consider that any instrumental designs are optimized based on the scientific requirements and such information is important for readers. I could not follow well from where all the instrumental requirements' numbers (those summarized in Table 1) come from.

- The science objectives of balloon-borne GLORIA instrument are similar to those of the airborne instrument. In the section “The GLORIA instrument” references to the scientific objectives and to the requirements for the calibration sources are given. The instrumental design of the balloon-borne GLORIA instrument has not been finalized yet.

Minor comments:

p.1 L18: ...the German metrology institute", " the spectral and ...

- Typo corrected

p.4 Figure 2: if possible, please add the scale (length) on the close-up figure of pyramids.

- The size of the pyramids has been added: Base is 5mm x 5mm; height = 9mm.

p.7 Figure 5(a): please add some labels...it's hard to understand what exists in the experimental layout.

- Figure has been modified.

p.8 Figure 6: The vertical axis of figure may be expressed in Celsius degree so that the

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comparison with Figures 4 and 7 become more easy.

- Figure has been modified.

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