

## ***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.***

**Friedhelm Olschewski et al.**

olsch@uni-wuppertal.de

Received and published: 29 June 2018

Thanks to Anonymous Referee #2 for the valuable comments. You will find our response below:

Comment:

I urge the authors to make a conscious decision on whether temperatures should be given in K, in degrees Celsius, or both. They may consider using K throughout, which would presumably be the most systematic solution. Perhaps it is worthwhile to add the

C1

Celsius value in parentheses in certain cases. Celsius (Centigrade) are now used on p. 4 in Table 1, p. 5 line 2 and Table 2, p. 6 Figure 4 a), b) and figure caption, lines 4, 6, and 16, and Figure 7. The use of Celsius instead of K does not seem necessary in any of these cases, except perhaps in Tables 1 and 2, which give manufacturer specifications and may be given to whole Celsius values, but not the apparent 0.01 K precision that might result from calculation. I leave this to the authors to consider, but recommend that the choice is not made “by accident” in each individual case.

Reply: I can assure the referee that the choice between °C and K is not made “by accident”. Of course, temperatures stated in Kelvin or degrees Celsius are equivalent. However, among metrology institutes it is common practice to use °C for absolute temperature values when the traceability to the International Temperature Scale of 1990 (ITS-90) shall be indicated and to use K and mK when (small) differences between temperatures or uncertainties shall be described. The Kelvin scale on Fig. 6 will be changed.

Comment:

p. 2 l. 29/30. Given the field of view of about 4 degrees x 4 degrees, it seems impossible not to include stars, galaxies or other in the “deep space” calibration point, which might degrade the uniformity of the temperature field. Please add a comment of explanation.

Reply: This aspect is very important and will be considered by the instrument developer. It is beyond the scope of this paper which only describes the large-area blackbody for the inflight calibration.

typos: p. 2 l. 14 consider “as an imaging FTS...” p. 2 l. 16 consider “... the chemistry mode, respectively.”

Typos have been corrected.