

## ***Interactive comment on “In-flight calibration and monitoring of the TROPOMI-SWIR module” by Tim A. van Kempen et al.***

**Anonymous Referee #3**

Received and published: 16 September 2019

This paper covers the first year or so of on-board calibration for the SWIR module for TROPOMI in a very straightforward, systematic way. There are few surprises, which is always a good thing when it comes to spaceborne remote sensors. The techniques discussed have been presented elsewhere in the literature (and hence are not novel), but the documentation of the TROPOMI instrument status at this stage is in itself a useful and important work. I recommend publication after minor corrections.

Figure 4: There's no mention of the linear features in the radiances at indices 400 and 500 - are these dark flux or something else? Is there a mask on the detector for the top and bottom rows? The results look very different compared to the middle of the detector.

Page 8, Line 3-4: Did they not have any thermal measurements for an actual comparison?  
C1

son? This difference may be important.

Figure 7: There's a pretty distinct discontinuity in the offset at the middle of the detector, but I don't see any discussion of this in the text.

Figure 8: There seems to be a linear trend in the median offset, but that could be an artifact of the statistics rather than a real thing. Which is it?

Figure 11: How is it possible that the number of bad/dead pixels decreases with time? Did your criteria change?

Figure 17 shows that this could be a 1% error, which is significant for trace gas retrievals.

Page 17, Line 5-6: This is really only a measurement of a small area of the bandpass. Is there any reason to assume that this is representative of all of the other wavelengths as well? Please note that I realize this is a heroic effort to track stray light.

What is the difference between Figures 16 and 17?

Page 26, Line 2: I disagree, the offset image in Figure 7 shows a pretty clear difference.

---

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-270, 2019.