Atmos. Meas. Tech. Discuss.,
doi:10.5194/amt-2017-448-RC1, 2018

Atmospheric Measurement Techniques Discussions

Interactive comment on "CALIPSO IIR Version 2 Level 1b calibrated radiances: analysis and reduction of residual biases in the Northern Hemisphere" *by* Anne Garnier et al.

Anonymous Referee #3

Received and published: 11 February 2018

This article analyses deficiencies in the calibration of the CALIPSO IIR sensor and proposes an empirical algorithm to mitigate them. The article is clearly presented, based on an exhaustive analysis (albeit within limited range of conditions) and goes into considerable detail. While the authors do not speculate on the underlying cause of the biases found, there are some clues in the results which could be worth further investigation. The benefits of the proposed mitigation algorithm are clearly demonstrated, and will lead to improvements in many applications using these satellite observations.

I only have a few minor corrections and clarifications. Once at least the last two points below are addressed the article would be suitable for publication. The others I would

Printer-friendly version

Discussion paper

not consider to be mandatory.

P.2 Line 7 - It would be helpful to mention the equator crossing time.

P.2 Line 9 - How are these bandwidths defined?

P.2 Line 12 - please provide a reference to full details of the definition of equivalent brightness temperature used here.

P.2 Line 20 (and conclusions) - What are the requirements for IIR calibration?

P.3 Line 2 - please add a reference to G17 here.

P.5 Line 18 - does the figure of -0.5K refer to both channel pairs shown?

P.9 Line 2 - This hysteresis effect is interesting. Any idea what could cause it?

P.10 Line 23 - Could the fact that this effect has the same impact on all three channels be a clue to the underlying cause?

P.12 Line 1 - It could be helpful to include values for the standard deviations of the time series shown in Fig. 5 and 11. (The latter could include the former superimposed in feint symbols to highlight the impact.)

P.14 Line 20 - The last two sentences in this paragraph seem out of place here. They warrant a separate paragraph (including a reference to the actual radiometric performance required), and perhaps mention the abstract.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2017-448, 2018.

Printer-friendly version

Discussion paper