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www.atmos-meas-tech-discuss.net/8/C4285/2015/

Atmospheric Measurement Techniques Discussions

Interactive comment on "Evaluation of two Vaisala RS92 radiosonde solar radiative dry bias correction algorithms" *by* A. M. Dzambo et al.

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The paper evaluates two different bias correction schemes for Vaisala RS92 measurements. Given that RS92 sensors are used globally to measure tropospheric humidity, the comparison is valuable. Because of my interest in the topic, I am providing a few comments that may help to improve the paper. However, please note that the comments here should not be considered as editor's decision but solely as an independent review.

PWV is mainly from the boundary layer where the radiation dry bias is not significant so it should be clarified that PWV may not be able to even show the difference between the radiation dry bias correction methods

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Interactive Discussion

Discussion Paper

P10757 L5: there are a few more references that can be cited here including Moradi et al, JGR 2013 DOI 10.1002/jgrd.50589, Moradi et al. TGRS 2013 DOI 10.1109/TGRS.2012.2220551

P10760 L21: It doesn't seem logic to remove 20% of the data as outlier

P10761 LL9-10: the sentence doesn't seem to be correct

P10761 L21: the aforementioned reference seem relevant here

P10762 L5: please define a.s.l.

P10762 L16: please reword water vapor profile shape, may be something like ".... more sensitive to the middle and upper tropospheric water vapor ..."

P10762 L25: instrument function => instrument response function AND derive model calculations => calculate brightness temperatures

P10763 L7: rationale behind 2.25 K?

Sections 3&4: The radiative transfer error should be taken into account and discussed when interpreting the results - some discussion is provided in the aforementioned papers as well as Moradi et al, JGR 2010: DOI: 10.1029/2010JD013962

Section 3: It would be good to see the Jacobians for the MW radiometer. Unless, I am missing something, the authors have sim-interpreted the results for the downwelling case.

P10765 L22: Unfortunately » Since

P10766 L5: the authors should show evidence for the claim made here

P10767 L2: How the cloud filter works?

Section 4: it should be noted and discussed that the AIRS selected observations are for dry conditions because the cloud filter removes the moist regions from the analysis

AMTD

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Table 1: it is better to present the values in mm

Figure 1: it would be better to show ORIG -MILO and ORIG - WANG as it is very hard to see the differences now

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Interactive comment on Atmos. Meas. Tech. Discuss., 8, 10755, 2015.