

***Interactive comment on “Possible shift of spectral response function of the MODIS 6.8  $\mu\text{m}$  water vapor channel causing a cold bias up to 3 K” by B. J. Sohn et al.***

**Anonymous Referee #2**

Received and published: 29 September 2010

It is a very well written and important paper which reveals a significant bias in MODIS upper tropospheric water vapor channel. I recommend to publish this paper with very minor corrections.

How about other channels on MODIS? Do you expect SRF shifts in those as well?

Specific comments:

Inter-calibration using SNO method: It may not be a problem for inter-calibration whether the instruments are seeing water vapor or surface if the two instruments see the same target at the same time, but this often not the case and the surface can be

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highly inhomogeneous in the polar regions where SNOs usually occur.

A 5 degree angle difference at the end of scan/disc can result significant difference in brightness temperature. Therefore it is desirable to use near nadir measurements for this kind of inter-calibration studies.

It would be good to show the plots and statistical parameters for 11 microns shift in SRF. Also, why 11 microns? Did it give the best fit? Bit more details on this will be good.

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Interactive comment on Atmos. Meas. Tech. Discuss., 3, 3277, 2010.