**Atmospheric
Chemistry
and Physics
Discussions**

Interactive comment on "Satellite climatology of cloud liquid water path over the Southeast Pacific between 2002 and 2009" *by* L. W. O'Neill et al.

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Overall, this is a good data analysis paper.

My most serious concern is the usage of F15 data after August 2006, which are contaminated by RADCAL interference. RSS mitigated the effects of this contamination as much as possible (doi:10.1029/2008GL034914), but F15 data after Aug 2006 should still be treated with some suspicion.

The RADCAL correction performs well through 2008, and is about a 10K bias in the 22V channel. Then in 2009, as the orbit of F15 drifts earlier in the day, there are periods in Feb-Mar and Oct-Nov where F15 experiences an anomalously cold thermal environment. This dramatically worsens the effect to about 30K. RSS does model

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this temperature dependence, but a little residual interference remains during these periods. The events in 2009 were particularly strong.

However, after reviewing the figures in the paper, I do not see any evidence that RADCAL contamination led to inaccurate results or conclusions. I do think that RADCAL explains why the LWP RMS difference in Fig 7a is larger for F15 in 2007, 2008, and 2009. Notice that F15 lacks those peaks before that 2007. I do not know what issues are causing AMSR-E to have similar peaks in 2005, 2006, 2007; or why F13 has peaks in 2005, 2006, and 2008. The occurrence of AMSR-E and F13 peaks at the same time of year as RADCAL is coincidental; but it may suggest a different, subtle calibration issue is the cause. It will be interesting to repeat the Figure 7 analysis when RSS' Version-7 data are available.

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