

1 RC1

I only have hard copies of the referee comments so I will try to reply from those.

General comments:

1. I did not specifically address this as being part of a special issue, the science aspects will be addressed in an overview paper by Walker and Stiller.
2. The team working on these papers met last year and we decided not to include the latest versions because there are papers already accepted for publication and we decided it will be more consistent story across the papers.
3. A common color scheme was developed to be used for all the papers. I personally did not come up with this color scheme but I appreciate that this was not an easy task given the large number of data sets.
4. I added lots more references where the referee requested them.

Specific Comments:

I incorporated all of their comments except change the line color for MLS due to maintaining consistency among the papers. This includes adding a figure showing sonde locations and a clearer figure showing how the different ways of comparing and calculating differences impact the average and standard deviation.

2 RC2

General comments:

1. I don't think looking at day to day variability of a volume averaged measurement is the same as assessing the variability within the sampled volume. Therefore I don't think this would add anything.
2. I added an explanation of AIRS cloud clearing scheme to address how AIRS can make measurements if the scene is not too cloudy.
3. I broke the conclusion section into 2 sections as requested.

Typographical comments and pedantry:

I fixed everything they requested except for replacing my phase and amplitude figure with a polar representation. I agree with the referee that a polar plot would be better to show where the phase becomes less significant when the amplitude is small. To do this would delay the publication by a month and one will need a separate figure for each height.

Other than this I have included the suggestions.