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Atmospheric Chemistry and Physics Discussions

Interactive comment on "An evaluation of the SAGE III Version 4 aerosol extinction coefficient and water vapor data products" *by* L. W. Thomason et al.

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The authors would like to thank the reviewer for his in-depth comments and helping us to catch an error in the use the MLS water vapor data. We appreciate his efforts very much.

Responses:

1. Yes there are aerosols all the way to the surface however, due to the presence of clouds in the troposphere, aerosol measurements in the troposphere by SAGE-like instruments are difficult to interpret and of secondary importance to the mission. We clarified this.

2. Change made.

3. Change made.

4. Change made.

5. Change made.

6. Yet another example of how I can make a simple concept sound complicated. I have clarified as recommended.

7. Corrected.

8. Not sure happened here but it is correct in the original manuscript. I will check that carefully in the next type set version.

9. SAGE III has a rather limited latitude coverage (similar to that of POAM III and SAM II). Rather than add another figure, I have added some text to the introduction to indicate the latitude coverage of SAGE III.

10. I suspect that the dry/wet seasons observed by SAGE III are more a measure of the details of how intense the vortex is, its shape, and its ebb and flow and the mix of SAGE III observation made inside and outside the vortex. It is probably worth investigating in the future.

11. Change made.

12. We made an error in applying the Lambert correction and we have updated figures 15 and 16 as well as the text to reflect the new analysis. The agreement for MLS and SAGE III are even better.

13. We made this correction.

14. The colors appear to be there in the draft I downloaded. I will check with the ACP editors to ensure that there is no problem.

15. Change made.

16. We corrected the MLS plot and note the (now consistent) sense for the plots.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 22177, 2009.