

Interactive comment on “Verification of the AIRS and MLS ozone algorithms based on retrieved daytime and nighttime ozone” by Wannan Wang et al.

Anonymous Referee #1

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Review of Wand et. Al.

This paper is close to publishable form. It just needs a few modifications, a little more detail in places and grammatical changes.

Line 25-6: significant threat of CFCs and other (remove 2 ‘the’s) Line 47: Remove the leading ‘The’ Line 48: . . . is the most used method. . . (add ‘method’) Line 49: . . . occultation method. . . (add ‘method’) Line 60 . . . day and night or issues with. . . (add “issues with”) Line 63 I suggest: “daytime values have a low bias due to errors in the retrieval method” Line 65 Change: profile to profiles Line 71: upper or lower stratosphere? Line 72: add “the” to Chapman cycle Line 87: Hydrogen and molecular

C1

what? Line 99: A reference to the recent Frith et al paper on diurnal changes in ozone would be useful

Lines 124-29. Why is version 5 being discussed? In line 200 you discuss the different MLS versions and state that there is not much difference. But there is no discussion of AIRS V5 vs V6 in the paper. Either add a discussion on those differences between V5 & V6 or remove all references to V5. BTW, V7 is coming out sometime soon. . . .

Figure 1. Why were the scales changed in plot E? It is better to keep the same scale for all plots. Line 149: efficiency

Lines 162-165: see question from line 124

Figure 5 & section 3.3: By far, the most interesting feature in these plots has gone unnoticed (or undiscussed). Why does the difference between MLS and AIRS look so different in figure 5b and so similar in all the others??

Line 220: replace ‘that is why O3 low over’ with “causing low O3 over” Line 222: use ‘ “loss due to photochemical mechanisms”

Figure 6 is interesting but confusing. How do you define “low ozone” for AIRS and MLS? There are not many points in fig 6d leading this reviewer to wonder if the MLS lines in 6f are meaningful . Could you please explain a bit more what you are trying to point out with these plots?

Line 248-250. Ah ha! There is the discussion about V5 AIRS. Please move up to line 124 and add more information on where/when/why the ozone values were different and by how much. Or just drop the discussion all together.

Line 271-2. It is necessary. . . . This sentence is confusing. Please rewrite.

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C2