

Interactive comment on “Validation of 10-year SAO OMI Ozone Profile (PROFOZ) Product Using Aura MLS Measurements” by Guanyu Huang et al.

Anonymous Referee #2

Received and published: 10 August 2017

This paper is well thought out and contains a thorough analysis of the differences between OMI and MLS profile retrievals. The writing can be somewhat “dense” at times and this reviewer suggests that some of the long, highly complex sentences be split into two to make the reading less difficult. Other than a few minor changes listed below, this manuscript is recommended for publication.

Well, all my underlines and color have disappeared. I hope that you can follow my changes.....

Minor changes: Page 1: line 17-19 remove the words “larger” and “smaller” Larger than what? Line 20,23 & 25 comparisons Line 25 significant bias in the Line 28-9 The sentence about 261hPa MLS ozone sounds very “arrogant” as if MLS is being validated with OMI and not the other way around. Suggestion- just state that they agree well at

C1

this pressure and leave out the interpretation as you have done on Page 5.

Page 2: line 11 change ‘in’ to ‘at’ Line 29 ozonesondes measure Line 32 remove “but also...validated”

Page 3 line 22 comparisons

Page 4, line 21 remove “in the stratosphere” Line 21-22: Please either explain how the cross track position changes as a function of latitude here or refer to section 3.

Page 6, line 1 change is to are (data is plural) Line 2 to the top of Line 3 change “for avoiding” to “to avoid” Line 20: OMI a priori is used in the calculation Line 24: The ozone column Line 27: remove “SOC comparison” and add an ‘s’ to “are for comparisons”

Page 7, Line 2,3 Remove “only, missing to. . . .than 7hPa” Line 13:mask which is constant Line 32: (red lines), the OMI

Page 8 line 3: change to: “these comparisons are similar to the OMI/MLS comparisons shown in 2006 in Lui et al although both OMI and MLS versions are now different and this study is done. . . .” Line 15: change “Such worse comparison” to “The larger differences” Line 24-5: please reference cross track biases or include a plot. Line 33: This supports the theory that. . .

Page 9: line 11: remove “especially”

Page 10: Line 30: as in the introduction, please reduce the conclusion to “the two agree at 261 level”

Page 11: line 1 add “see Figure 2” after “trend analysis” Line 7 & 8 change “of” to “at” Line 10- you need stronger words to dissuade people from using the data in the upper strat from 30-90N Line 24: . . .not suitable for trend studies. . . This is a conclusion and should be either moved or repeated in the conclusion section.

Page 12: line 10: profiles

C2

Page 13: remove "original"

Figure 4 & 5: Why is there such a positive bias in 70-90 South above 1 and below 100 hPa plot in figure 5 (SZA) but not figure 4?? Shouldn't it "smear out" and be a red streak in the latitude plot like in the north high latitudes (Fig 4)? Please explain.

Figure 6 is very "cluttered" with text. Please remove N= for the lower two plots as it is redundant information.

Figure 7: Please scale the middle plot to the same absolute scale as the other two (-4 to 6 or -3 to 7 would be fine)

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2017-92, 2017.