

Interactive comment on “Decadal-scale responses in middle and upper stratospheric ozone from SAGE II Version 7 data” by E. E. Remsberg

Anonymous Referee #2

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General Comments: This is well written manuscript providing updated results presented in Remsberg and Lingenfelter (2010) using recently available SAGE V7 data. This study provides an alternative statistical analysis on long-term trends and solar cycle-like response on the stratospheric ozone. I think this manuscript should provoke renewed interest towards better understanding of the solar response on the stratospheric ozone. This manuscript fits well in ACP domain and should be published with minor correction given below.

- 1) Page 20245:- line 3- Everything is for the reader so remove "To acquaint the reader with the nature of SAGE II data"
- 2) Page 20245:- line 13- remove "that for"

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- 3) Page 20245:- line 13-14 - Is it possible to discuss a diurnal cycle in the tropical ozone by selecting a single month where both sunrise and sunset measurements are available.
- 4) Page 20246:- line 9- I think that must be due to denoxification. In the middle stratosphere, enhanced aerosol loading can reduce NO_x associated ozone loss by converting it into HNO₃.
- 5) Page 20246:- line 24- "The trends are of the order of"
- 6) Page 20246:- line 25- Can you define boundaries for lower, middle and upper stratosphere in km? I think upper stratosphere is above 45 km. Also see Page 20247 line 26.
- 7) Page 20248:- line 4- "trend term is less affected"
- 8) Page 20250:- line 10-15- What about differences in SAGE sunrise/sunset sampling after 2000?
- 9) Page 20251:- line 28- Dhomse et al., also discussed O₃-T anti-correlation in the upper stratosphere

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