

***Interactive comment on “Middle atmosphere response to different descriptions of the 11-yr solar cycle in spectral irradiance in a chemistry-climate model” by W. H. Swartz et al.***

**W. H. Swartz et al.**

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We greatly appreciate the constructive comments by Referee #2 (Anonymous). The revised manuscript for ACP submission incorporates the following responses. Quotations from the revised manuscript appear below in *italics*.

**Minor Comments:**

p. 5, l. 153. This has been clarified as suggested.

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p. 6, l. 175–6. The selection of solar max/min conditions is clarified in the manuscript as follows.

*These two particular months were selected because they were close to solar max/min conditions, lie on a linear fit correlating the NRL SSI in the ultraviolet and  $F_{10.7}$ , and are separated by nearly 100 units of  $F_{10.7}$ . This allows the results to be interpolated or extrapolated approximately to other solar activity conditions, as the effects scale linearly over this range of magnitudes (not shown).*

We used this approach so that we would not be biased by month-to-month “noise.” And since we scale our results to 100 SFU, we figured it was not necessary to select conditions exactly at solar max/min.

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