

Interactive comment on “Local and Remote Response of Ozone to Arctic Stratospheric Circulation Extremes” by Hao-Jhe Hong and Thomas Reichler

Anonymous Referee #3

Received and published: 28 September 2020

This manuscript shows the dynamical features of SSW and VIs from the boreal early winter to late spring in both region, Arctic and Tropics. The present study found new aspect on the dynamical impact of the final warming at the case of Vis winter. Further, there are descriptions of ozone fields at Arctic and tropics on SSW and Vis winters. The manuscript was well written, the present manuscript will be published after modifying some minor corrections and/or answer to the reviewer comments.

Minor comments:

Abstract: It is interesting points that should be described in the Abstract, that is the quantitative discussion of ozone change (Figs.2 (a,b) and Figs.5 (a,b)). The ozone

Printer-friendly version

Discussion paper



change was large at both case of SSW and Vis with FW in the Arctic, on the other hand, the ozone change was small but same amount for both case in the tropics.

Line 41 “become easterly”: The major warming event accepts the reversal of zonal wind direction from westerly to easterly, however the warming event does not always reverse the wind direction, like for the minor warming.

Line 253-255 “In contrast, the negative anomalies...”: Figs.2 (c, d) : Do Figs.2 (c,d) show the anomaly from climatology? If so, the authors should add the description of the anomaly from what.

Line 264 “the variations of w (Fig.3a)”: If the QBO variation remains in the residual vertical velocity and temperature fields, the authors should note the fact.

Line 278 Fig4b: The year of 2016 for Vis case is absent.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-790>, 2020.

[Printer-friendly version](#)[Discussion paper](#)