

General comments:

Overall: This a standard study of the distribution and trends of stratospheric winds. The analysis seems reasonable, but in my view, the paper is thin on the justification of the work. Why is it important? The authors could have repeated the tests of significance at 99% to test robustness of the results.

Whether the paper is suitable for ACP is the decision of the editor, but before acceptance for ACP I would like to see a punchier paper, with more information on the justification for the work and the impact of the results, and further tests on significance.

Specific comments:

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L. 5: I think the main point for using reanalysis data is that they provide a consistent dataset.

L. 10: Why is this interesting? Please avoid subjective statements.

L. 12, 13: I suggest the authors use “dipole” and “quadrupole” instead of “two-core” and “four-core”.

L. 23: Presumably this is an example of what can cause changes in the stratospheric wind?

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L. 2: I think more details should be provided about the importance of the stratospheric circulation and the impact of climate change on this circulation. References would be useful.

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L. 15: Why do you want to look at the meridional wind?

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L. 3: Are you evaluating the ERA reanalyses by just looking at one site in Prague?

L. 24: Do you mean total horizontal wind?

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L. 1: What about significance at 99%?

L. 12: Do you mean geographical sectors?

L. 23: Is 0-360oE correct?

L. 25: Behaviour of what? Please provide details.

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L. 7: Why is this a physically plausible result?

L. 13: What is the evidence that the two periods (25 and 17 years) are long enough for your analyses?

L. 15: What criterion do you use for a major sudden stratospheric warming?

L. 19: Please provide examples (with references) of these previous studies.

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L. 11: Please elaborate on your statement about results supporting the four core structure in winds.

L. 25: Are your results consistent with Holton-Tan, or provide insight into Holton-Tan?

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L. 1: Why is this interesting? Please avoid subjective statements.

L. 19: The pitfalls of zonal mean averages are well-known.

L. 22: What do you mean by noticeable?

L. 25: Why is this remarkable?

Style comments:

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L. 24: in -> on.