

Review of the Revision: Diurnal cycle of short-term fluctuations of integrated water vapour above Switzerland by Hocke et al.

Overall impression and rating

The revised manuscript improved in a considerably way and gives overall a better impression. The introduction improved and the restructuring of the results section makes it easier to read. The analysis is still quite short, but sufficient and written in more balanced way. For these reasons, I recommend publication in ACP after considering my minor comments.

Minor comments:

- As a motivation of using MERRA2 for latent heat flux, I would recommend to cite the DRAPER et al. 2018 study. They did a lot of work concerning representation of latent heat in MERRA2.
- The diurnal cycle of latent heat flux in winter time shows also a maximum around noon time, which is of course much weaker (~ 7 times) compared to summer. This enhancement is not visible at all in the IWV fluctuation. Can you please explain why this is the case and please discuss that also in the manuscript.
- I appreciate that you included statistical information about the IWV fluctuations and latent heat flux correlation in terms of the correlation coefficient. Could you please add also information about the significance (e.g. p-value) of the correlation. Please show also a correlation scatter plot with IWV fluctuations on the x-axis and latent heat flux on the y-axis. The plot allows the reader to better see how the correlation looks like and should further support the main message of the paper.

Technical comments/suggestions:

- page 2, line 30: Citation is missing
- page 7, line 14: drives instead of leads ?

References:

- Draper, C.S., R.H. Reichle, and R.D. Koster, 2018: Assessment of MERRA-2 Land Surface Energy Flux Estimates. *J. Climate*, 31, 671–691, <https://doi.org/10.1175/JCLI-D-17-0121.1>