

Atmos. Chem. Phys. Discuss., referee comment RC2
<https://doi.org/10.5194/acp-2022-732-RC2>, 2022
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Comment on acp-2022-732

Anonymous Referee #2

Referee comment on "Validation activities of Aeolus wind products on the southeastern Iberian Peninsula" by Jesús Abril-Gago et al., Atmos. Chem. Phys. Discuss.,
<https://doi.org/10.5194/acp-2022-732-RC2>, 2022

The manuscript of Jesús Abril-Gago et al. presents the validation of the Aeolus HLOS wind products with measurements obtained at Granada in Southern Spain. Doppler wind lidar have been mainly used to cover a period of almost 2 years for validation. Furthermore occasional radiosondes (7 in total) were launched. Such validation efforts are very valuable and the results, even though, representative for one site only, worth publishing.

However, in my opinion, the paper is not suited for ACP as the only objective is on validation only. It should thus be shifted to AMT – as also partly recommended by the first reviewer. As the current SI is an inter-journal SI, I hope this can be done without starting a new review process, which would be overdone...

Beside this, I have only a few general comments but many, many specific comments and corrections. Due to the amount (more than 90), I choose major revision for the current paper.

I sincerely recommend a proper language editing from which the manuscript would for sure benefit. There are some sentences and phrases I cloud not understand, some others for which I had to guess what is meant.

The validation itself is done in a solid way, but taking into account the low amount of radiosonde launches (7 in total), I consider a separation between ascending and descending orbit not useful. The authors come to same conclusion, but in my opinion, it is not worth to present. In general, the whole „radiosonde section“ can be shortened, as it is mostly a repetition of sentences from the comparison with the Doppler lidar (just exchanged numbers), with not much new information. The validation with the radiosondes and the Doppler instrument is completely separated without linking the results which should be from an atmospheric point of view similar. Thus, consider a reshaping and a

linking of the results as partly already done. Furthermore, some important information are missing, e.g., the season of the radiosonde launches etc.

Nevertheless, the methodology used for this paper is robust and the data is well analyzed. Plots are in general of good quality, tables are ok but could also be styled up.

Mainly the general presentation needs to be improved – which I am sure the authors can do – also given the number of co-authors involved in “reviewing and editing the paper”.

Please find more specific comments attached.

Please also note the supplement to this comment:

<https://acp.copernicus.org/preprints/acp-2022-732/acp-2022-732-RC2-supplement.pdf>