

Atmos. Meas. Tech. Discuss., referee comment RC2
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Comment on amt-2022-223

Anonymous Referee #2

Referee comment on "Quality control and error assessment of the Aeolus L2B wind results from the Joint Aeolus Tropical Atlantic Campaign" by Oliver Lux et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2022-223-RC2>, 2022

Review of Lux et al., 2022 "Quality control and error assessment of the Aeolus L2B wind results from the Joint Aeolus Tropical Atlantic Campaign"

The manuscript by Lux et al. addresses the methods of quality control and error assessment of the Aeolus ALADIN L2B wind measurements. The study investigates the influence of different QC approaches on the key statistical parameters through comparison of L2B data of both Rayleigh and Mie channels with ECMWF analysis and airborne lidar measurements within dedicated validation campaigns. The authors point out that the estimated error provided with the L2B wind product does not fully incorporate all relevant error sources and propose a two step QC, involving a modified Z-score with individually derived thresholds. The proposed method is intended for ensuring consistency and comparability among diverse validation studies.

The paper is carefully written, the experimental setup and validation methodology are thoroughly and comprehensively described, the graphical material is very high quality, whereas the conclusions and recommendations are well substantiated. Although the paper's scientific significance and the breadth of potential implications are somewhat limited, I find this study useful and fitting well the scope of the Aeolus inter-journal special issue.

General remarks:

The abstract appears to be a bit too verbose and I would suggest to make it more focused on the key results and their implications

The discussion of the potential implications of the results presented is mostly missing. It

would be useful to develop this aspect in the abstract and in the concluding section.

Specific remarks:

The title of the last section should probably be Discussion and summary instead of Summary and conclusions

L.573: should it be "Black bars"?