

Atmos. Meas. Tech. Discuss., referee comment RC1
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Comment on amt-2021-426

Anonymous Referee #1

Referee comment on "A new scanning scheme and flexible retrieval for mean winds and gusts from Doppler lidar measurements" by Julian Steinheuer et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2021-426-RC1>, 2022

The manuscript propose a novel algorithm for the retrieval of the mean wind and wind gusts from wind-lidars. It is an outstanding paper, clearly written in a good english. The proposed retrieval algorithm for wind speed and wind gusts has the potential to be applied and replace the existing systems in future wind-lidar systems. The proposed algorithm include an uncertainty estimation of the wind speed.

Some minor remarks:

Line 209. Use "elevation" or "zenith" angle throughout the manuscript – not a mix.

Line 344-346: the sentence starting The outliers.....is not clear. How close is the lower range gate to the DWL????? And why is this a problem.

Figure 9. Explain the acronym SAN. The acronym should be explained in the main text or on every figure where it is used.

Line 410. Should be -18.2 dB

Conclusion: I suggest to include a small discussion on the use of CSM2 for turbulence measurements?