

Atmos. Meas. Tech. Discuss., referee comment RC2  
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## **Comment on amt-2022-193**

Anonymous Referee #2

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Referee comment on "Complementarity of wind measurements from co-located X-band weather radar and Doppler lidar" by Jenna Ritvanen et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2022-193-RC2>, 2022

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Novel ideas concerning accurate wind measurements are presented in this manuscript. Accurate measurements of wind profiles are of the essence given the use of these measurements, for example, in numeric weather prediction models. The results presented in the manuscript are based on data (i.e., Doppler velocities) collected from two co-located instruments: an X-band weather radar and a Doppler lidar. The data, collected during a 7-month campaign conducted in Vantaa (Finland) show that the conditions in which both instruments were able to provide Doppler velocities measurements are the summer clear air situations in which both insects and aerosols are present. Thus, The data from these two instruments can be complementary in certain weather situations and using them in synergy can improve the spatial coverage of wind measurements for different weather situations.

The subject of the manuscript is within the scope of AMT. The manuscript is very well written, clearly outlined and with a complete description of the methods to allow reproduction.

One minor comment concerning the use of hexagons to represent data points in Figures 5, 9, and 11. Are the hexagons used to improve spatial representation (compared with squares)? Furthermore, the hexagons are stretched in the horizontal direction in Figures 9 and 11.