

The manuscript gives an impressive overview of airborne measurements. Unfortunately, it is too much descriptive. This may be fine with respect to meteorology, for the wind energy community (wind farm developers, wind turbine designers, wind energy researchers) more specifications are required, e.g. with respect to the airborne measurements:

- what is the averaging period of the wind speed (e.g. as shown in Fig. 2)? And what is the typical distance travelled by the aircraft during this time interval?
- How accurate are these measurements? (e.g. on basis of the calibration of the instruments and/or comparing with sonic measurements on a static met-mast, when the aircraft has been flown close to it)
- How is the turbulence intensity determined? (what is the sampling rate?)
- How is the stratification (heat flux) obtained?

Line 161: 'These include the ability to directly validate satellite-derived wind speed at hub height'; so, specify the (typical) mean and standard deviation of the difference between the SAR and airborne wind speed (Fig. 3)

Line 164: 'Airborne measurements also complement'; how?

Line 187: 'all models showed reduced performance further downstream'; specify

Line 188: 'The study underlines the value of high-resolution airborne data for benchmarking wake models in clustered offshore wind farm'; be more specific: what did airborne exactly add to the traditional way of wake measurements (in other words: what can be done with airborne measurements what is not possible with e.g. a lidar or met-mast).

Line 217: Typo: (?Djath et al.

Line 226-228: 'the dissipation of a land-based LLJ'; 'a breakdown of the LLJ'; clarify what the difference is.

Line 237: 'high-resolution data in both horizontal and vertical directions'; specify

Line 250: 'it struggled to accurately reproduce the absolute wind speed'; specify

Line 254: 'The mechanism for creating turbulence for wind turbines does not seem to be constant with height to reproduce observations (Larsen et al., 2024)'; I do not understand this rather odd sentence; is it about ambient turbulence or wind turbine generated turbulence?

Figure 7: Clarify 'roll mean' and 'running mean values'

Figure 7 top left; it seems odd that the wind speeds in Leg 6 are smaller than in Leg 5; several models (EM-BL, EM-LR and EM-TP) show the same. What is the reason?