

Review of “Validation of the dynamic wake meandering model with respect to loads and power production” by Inga Reinwardt et al.

General comments

This article is highly relevant to wind farm engineering as it provides a good overview of the capabilities of various modifications of the dynamic wake meandering model.

The text is very well written and the document follows an understandable path. The results are presented in a very clear way, although sometimes the text could be a bit more concise. On the other hand, I understand you want to be complete and present all the findings. In some instances, I would prefer some concrete numbers, instead of brief descriptions of deviations

Specific comments

p.2 – l.44-48: is this information really necessary for the reader?

p.5. – l.89: *Measurement results were analyzed from April 2019 to May 2020.* Please rephrase, it sounds like you are worked on analyzing the data in that time span.

P.9. – l.193: What is the induction zone model? Please add a reference or explanation.

P.13. – l.252 ff: You always refer to the rated wind speed, but you do not define it. It can be seen from Figure 7 (a). Nevertheless, I would name it not to create confusion for the reader.

p.16 – l.329: Here you mention the Wöhler coefficient. Is it the $m=10$ and $m=4$ specified in the header of the figures? If so please specify it before you use it the first time (Figure 9), otherwise the information in the title distracts the reader.

p.18 – Figure 11: What are the numbers in the graph? You should mention again what they stand for. Maybe also in the caption.

p.22 – l.405-406: *For the comparison measurements at the closest available lidar range gate that is still outside the rotor area of the downstream turbine is used, thus it happens that the downstream distance used in the simulations is slightly to low.* This is hard to understand. Please rephrase

Technical corrections/comments

p.4. – l.73: *Whole met mast ~~and~~ as depicted*

p4. – l.82: *three turbines are equipped with load measurements ~~s~~ equipment*. They cannot be equipped with measurements but equipment or similar.

p.5: please refer to Table 1 in the text.

P8. – l.169: Firstly instead of First.

P9. – l.191: standard deviations~~s~~.

P13. – l.250: *shown as ~~a~~-mean values*

P14. – l.283: *with ~~and~~ and with an ambient*

P15. – Figure 9: The numbers in the graph indicating the number of considered measurements are more confusing than informing. Maybe you could make an extra graph for them, which is valid for all four plots and, which indicates what you say in the text.

P15. – Figure 10: Please be consistent with the fonts and the size of the text that you use for the figures. Figures 10 and 13 look very different from the other plots.

p.22/23 – Figures 14, 15 and 16: Why do you use 3 separate figures here instead of before where you used one graph for all three cases? Furthermore, the blue line in normalized DEL graphs seems not fitting here. As you use the same legend for both graphs (just not in Figure 16?), the reader might get confused by the blue line colour as it would refer to “measurements”. So I would suggest to use a different colour for this line.