

Interactive comment on “Initial Results From a Field Campaign of Wake Steering Applied at a Commercial Wind Farm: Part 1” by Paul Fleming et al.

Anonymous Referee #2

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The paper presents the initial results from a wake steering field campaign. Overall, the paper is very well-written and includes very important findings. Lessons learned are also presented which are very helpful for the community. Although the quality of the paper is already very high and in principle could be published as submitted, the minor issues mentioned below might be helpful to further improve the paper.

Author list: depending on their contribution you might consider to move some persons to the acknowledgment section.

Abstract: You could consider to add the 3.7% of the aggregated analysis as well. Wake steering is a wind farm control method and thus the effect to the combined energy is

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also very important.

Figure 4: You could add some other wind speed as well to provide a better feeling for the 2 D lookup-table.

Text to Figure 5: You could provide the time constants of the low pass filter. It is partly visible from Fig. 9, but might help to better understand the issue with the time offset. And why did you use a filter for the offset? Wouldn't it be enough to have the inputs filtered?

Equation 1 and 2: You could mention that u^* is the frictional velocity, and $'$ means perturbations. And isn't the unit m missing in $L < -1000$?

Figure 6 and 7c are without a box, all others have one.

Figure 7c: After some time, I figured out that the third color is due to the overlay of baseline and controlled case. Couldn't you simply have to column for each wind speed bin? And what are the lines?

Figure 7d and 8: What does the shading here mean? The 95% confidence interval seems to be unlikely, since the mean is not centered.

Equation 3: You could consider to describe all components of the equation. It is pretty clear what A means, but just for the sake of completeness. And couldn't you use the mean power curve from T4 outside of the controlled region to get the power from the sodar within the controlled region instead of the power coefficient to avoid issues with wind speeds near rated?

Equation 4-6: you could consider to write the subscripts in normal text mode (not math mode).

Page 14, line 15: There is an additional)

Figure 11-15: Is the shading the 95% confidence interval? If so, you could add this to the captions or in the text. Also, the placing is a bit strange. . . e.g. Figure 15 is on page

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20 and the reference on page 17... but might be the usual latex mystery.

Looking forward to the paper from the north campaign!

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