General remarks

The methodology proposed provides excellent results for two wind turbines, one next to each other, operating in flat terrain. It seems that the authors expect similar results in complex terrain. It would reinforce the conclusions of the paper if the authors could provide some more arguments/evidences about the expected performance in complex terrain.

Typos

There are some typos:

Several times "pinner" is written instead of "spinner".

Some "consist" instead of "consists"

There is a "calculatio" instead of a "calculation" somewhere.

Style recommendations

I would write "wind turbine" instead of "turbine"

1. Introduction

"Measuring the performance..." by "Measuring the power performance..."

About the end of page 1. A comment should be included indicating that the flow in the spinner anemometer region is also disturbed, but the flow disturbance in this region can be modeled, in general, by simpler methods compared to the rotor-nacelle wake region case.

2. Site description

First paragraph, please indicate if your experimental setup complies with MEASNET standards.

3. Spinner anemometer calibration

Just before section 3.1: Although you explain what k_α and $k_1$are in following pages, it is convenient to include an explanation sentence about these parameters just here, in order to facilitate the reading.

Please define U_{hor}, γ and β just the first time they appear in the text. I recommend to do this with all your parameters.

"...path angle ϕ was..." by "...path angle ϕ_s was..."

4. Application of the nacelle transfer function

Figure 8: Please use the same symbols in the axes labels and in the text (for instance U_{mm} instead of Met-mast, some other times your write Met-mast wind speed...). Please use a common labeling in all your figures because this facilitates a lot the reading and the analysis of your results. Take a look to all your figures having this suggestion in mind. I would define a proper symbol for your normalizing wind speed value, let us say U_C, and label $U_{mm}U_C^{-1}$ [−]...

8. Power curve

With respect to figure 10. Although the error in AEP is the best indicator on the accuracy of your method, perhaps you could include in your figure 10 the difference lines in % with respect to a reference power in order to clearly see the difference between power curves at each velocity.

Figure 10. Is really power or P/P_R?

9.1 Uncertainty related to wind tunnel calibration of sonic sensors

"The standard uncertainty ($k_c = 1$) was calculated by dividing the value reported in the certificates by two"...perhaps I am going old but I do not see why your consider one half of the uncertainty.

9.2 Evaluation of spinner anemometer mounting

"The positions of the sonic sensors on the spinner were measured in the plane of the photos..." I wonder if there is any frame distortion. I am used to PIV analysis and frame distortions mainly at the borders of the frames is an issue. Perhaps your could include a comment on this.

9.3 Uncertainty in wind speed measurements due to the mounting imperfections

"...the flow field was calculated for a mesh of 0.01.." by "...the flow field was calculated for a mesh of 0.01 m.."

9.4 Combination of uncertainties through the spinner anemometer conversion algorithm

RHS of expression (24) I guess you must change "$\frac{u_1}{\sqrt{3}}$" by "$\frac{u_1}{3}$"

"...the derivative was computed numerically.." Most probably I am missing something, but it seems that the derivative can be done analytically. Just for information, do you do it numerically because to do it analytically is tedious or because there is not an analytic derivative?

"The uncertainty on k_a..." by "The uncertainty on k_α..."

10 Results of uncertainty analysis

"The mounting accuracy was investigated by overlaying six photos of the spinner taken from ground level during rotation, each showing the corresponding sensor when it is at the side of the spinner. The photos unveil deviations in the order of ± 2 cm between some of the sensors" is a repetition.

11 Discussion

"In complex terrain, a spinner anemometer should be assigned the calibration and NTF measured on a identical wind turbine in a flat terrain. The free wind speed calculated applying the NTF to the spinner anemometer measurements in complex terrain will provide a free wind equivalent to the one of a flat site, with no need for site calibration" You are proving (with excellent results) your method with two wind turbines, one next to the other, in flat terrain. You should provide some more evidences/arguments about the performance of your methodology in complex terrain.

References

"Demurtas, G., Pedersen, T. F., and Zahle, F.: Calibration of a spinner anemometer for wind speed measurements, Wind Energy, 2016. Faith, A, F. and Morrison, A.: An Introduction to Fluid Mechanics, Cambridge University Press, pages 656-658, 2013." by "Demurtas, G., Pedersen, T. F., and Zahle, F.: Calibration of a spinner anemometer for wind speed measurements, Wind Energy, 2016. Faith, A, F. and Morrison, A.: An Introduction to Fluid Mechanics, Cambridge University Press, 2013.".