

# ***Interactive comment on “Blind test comparison of the performance and wake flow between two in-line wind turbines exposed to different atmospheric inflow conditions” by Jan Bartl and Lars Sætran***

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We thank the referee for his/her critical and appropriate comments. We were asked to answer all referee comments, while a revised manuscript should not be prepared at this stage yet. In the following, we will therefore engage with all the comments and propose improvements for the final manuscript.

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**Comment RC2-1:** 1. The inflow conditions do not reflect any special characteristics of atmospheric flows like gusts or intermittent distributions of velocity increments. There-

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fore the authors should use the general term of turbulent inflow conditions instead atmospheric inflow conditions throughout the paper. In that case the use of turbulence intensity of sufficient like they did.

**The authors' reply to RC2-1:** Yes, that is a similar comment that referee 1 was already commenting on in RC1-3. It is correct that the inflow conditions are not representative of any atmospheric flows. The grid-generated turbulent flows were created to highlight effects of different turbulence levels and spatial non-uniformity in the inflow. "Atmospheric inflow" will be changed to "turbulent flow" in the title and throughout the paper.

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**Comment RC2-2:** 2. In figure 7 a), b), e) and f) gray full circles without error bars are used for the results of the first wind turbine. Is there a reason for that ?

**The authors' reply to RC2-2:** As the results for the first turbine are the same for all three separation distances, they were only plotted in Figures 7 c) and 7 d). As it overfilled the plot when all data of all three separation distances were put into one plot, it was chosen to plot three separate graphs and grey out the identical results of the first turbine. This was however not sufficiently explained in the text and it will be considered to fully plot the results of the first turbine also into plots 7 a), b), e) and f).

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**Comment RC2-3:** In general it would be interesting to know if more detailed analyses with respect to e. g. spectra or even higher moments are planned with the data. Maybe some of the differences in the presented mean values are related to differences in the generated turbulence itself. This, of course, can and should not be discussed in this paper.

**The authors' reply to RC2-3:** This is a very good suggestion for future work or a possible next blind test. In the blind test workshop similar thoughts were articulated.

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