

wes-2021-157

Response to Anonymous Referee #1

Thank you for taking the time to review this paper. We hope that you are happy with our changes, which are marked in red in the mark-up file.

Line 178

It is not always clear, if the verification was in lab or in situ.

We agree that the description in the abstract is not clear enough, and have changed the abstract correspondingly.

Line 244

0.35m m -> 0.35mm

Actually, we mean 0.35m. We have deleted the extra "m".

In general, it is a well written paper, which is worth being published to the scientific community.

As the system will enlarge the thickness of the blade profile, the definition as a non-intrusive system seems to be a bit irritating. Surely it will be possible to determine the influence of the system, but it will have an influence on the aerodynamics, which is not completely negligible.

We understand your irritation with the use of the word "non-intrusive" and agree that the measurement system isn't completely non-intrusive if the meaning of the word is taken 100% literally. We were actually referring to the fact that there is no intrusion into the wind turbine system – there is no electrical connection with the wind turbine and no mechanical intervention is required (the node can be attached and removed without damaging the blade). However, it is true a very small effect on the aerodynamic and acoustic behaviours of the blades is expected, as you mention. We aimed to keep this effect as small as possible by keeping to the requirements given by potential customers, who specified a maximum measurement node thickness of 4 mm.

We have made the following changes:

- We have clarified the intended meaning of the word "non-intrusive" in the abstract by adding a sentence "The measurement system does not require an electrical connection to the wind turbine and can be mounted and removed without damaging the blade."
- We have clarified the topic in the list of requirements on lines 153-155.

Calculating the bandwidth with the named sensors and sample frequencies, it seems that you will need a minimum bandwidth of 2,7 Mbit/s at 16Bit or 5,4 Mbit/s at 32Bit for uncompressed, continuous measurements, which is more than your given max. bandwidth of 1 Mbit/s. If you found a method to reduce the data, you should point this out.

Thanks for this comment. Indeed, the system description was not sufficiently clear. We updated the text on lines 189-192 specifying how the data is internally managed. However, we believe that in this specific paper any further detail of the compression algorithm goes beyond its scientific contribution.