

## Authors' response to wes-2021-157-referee-report-1

18.05.2022

### Generic comments:

- Nice work!! Nicely written paper, easy to read and follow, and very interesting and relevant topic

- The applicability of the LEE detection is a bit doubtful from a practical perspective: the pressure belt would probably erode quicker than the blade, and if it is installed post-erosion, then there is not really a point in detecting it. From a scientific perspective it is still interesting in terms of detecting variations in the  $C_p$  distribution which might arise from factors other than erosion (e.g. soiling or ice build up)

Agreed, it isn't feasible to use the pressure belt continuously on the blade. However, because it is easy to install and remove, we could install it for a short period every year or so. This is part of on-going work.

- The use case of "early detection of local blade structural damage" is not obvious from the current setup

We are in the process of publishing some first papers about this to make it more clear. We have a presentation at TORQUE2022 in a few weeks 😊

- The "zero" value as mentioned in section 3 will be of high importance, I did not very clearly see how this is done for measurements in the field (I guess that is part of the ongoing work mentioned in line 286?)

This is true, and we didn't mention how we will do this in the field. We have added a sentence to line 285.

### Small comments:

- Line 111: stating that all these methods are theoretical is maybe a bit too blunt. Most manufacturers will have methods (proven in the field) to detect rotor imbalance.

We completely agree and have removed that comment / changed "not proven" to "most have not yet been proven"....

- Line 116: the quantification of the impact of performance would normally be done via side-by-side analysis, because the differences in power will be so small (see example reference below)

True, we have added that measurements may be more accurate than this.

- The abbreviation LEE and its full wording "leading edge erosion" is used multiple times across the document (would be enough just once, and then just using the abbreviation)

Agreed, and changed.

### Typos:

- Issue with reference Hansen1993 in line 32 of page 2

- Line 49: change "thanks to tubes" → "with tubes" or "via tubes"

- Correct grammar of line 80: “As well as helping to further the understanding of..” → “As well as helping to further understand the..” or “As well as helping the further understanding of..” •
- Line 124: space missing in “by(Dong et al”
- Label of Figure 2: there is an opening parenthesis missing
- Line 264 and 314: “Reynolds” instead of “Reynold’s” (his last name was Reynolds.. not Reynold  
)
- Line 371: check correct use of capital letters in “Transformer neural network”
- The use of capital letters in the title of publications in the reference sections is inconsistent (some of them use capitals, some don’t): might be pointed out by the editorial check prior to publication? (not critical)

All typos changed, thank you for these observations!