General Comments

The manuscript addresses a very ineresting topic of relevance for the wind energy community by investigating the ability to detect flow separation with a novel mechincal sensor on the blade surface. In wind tunnel experiments at Re=885.000, different sensor configuration and the sensor placements along the chord are considered in order to gather information about trailing edge separation and leading edge separation. The general approach of comparing the sensor output signal and its standard deviation as a function of the profile AoA constitutes a reasonable measure for the usability and it is methodically sound. The presented results show the capability of the novel sensor to provide information about the onset of stall, which in some cases is limited due to the position of the sensor.
However, some of the conclusions stated are not clearly supported by the presented and discussed data.

I recommend this paper for publication after a revisions regarding the minor shortcomings addressed in the following.

Specific Comments

- In section 2.3, line 64, the authors mention, that the measuring time was either 1 or 2 minutes. An explanation for the two different measuring times should be given and the approach how to calculate comparable standard deviations from different measuring times should be made clear to the readers.

- On page 6, fig.4, a picture of the device with shell is presented. Since most of the results focus on the no-shell version, a picture of this setup shoud be included to provide the reader an improved understanding.

- On page 6, lines 92ff, the authors mention, that a version of the used blade profil with modified trailing edge has been used in other research. The relevance of this information is unclear and it should either be explained or ommitted.

- On page 8, line 102, the authors claim that the flow is transitioning from separated state to attached state between AoAs of 6° to 8°. With increasing AoA the transition should be towards flow separation.

- On page 8, line 105, the authors mention, that flow separation moves progressively twowards the LE up to an AoA of 18°. The decrease in C_L ist already starting at 18° (fig. 8), though.

- The lift coefficients derived form the pressure taps in fig.8 deviate from the lift curves for the two cases with and without the mounted device in fig 9. Figure 9 shows a later transition to a lower slope in the linear region (6° vs. 7°) and also shows a higher maximum C_L ($<$1.2 vs. $>$1.2). This leaves the readers with some questions about the reproducibility and reliabilty of the results. The authors should discuss these deviations and give an explanation. Also, since the device is mounted between two lines of

pressure taps, the comparison of lift curves for individual lines of pressure taps insetead of just averaged data would add value.

- In section 4.3 on page 11 the authors discuss the performace of the sensor when applied close to the leading edge. The finding of no detected separation for low AoAs should be expected, since the sensor is mounted in the region of the blade profile, where the flow is still attached. The finding seems obvious and this should be mentioned. The same holds for the finding, that separation close to the LE is detected once the AoA increases.

- The description of the impact of the shell in section 4.4 is very brief and superficial. From fig. 13 it is clearly visible, that the shell impacts the flow and thus the signal of the sensor. It can be expected, that the shell impact results in higher standard deviations for low AoAs. However, it is not clear why the signal is higher for fully separated flow in high AoA cases. No shell effect should be expected once the shell is located in the fully separated region. The authors unfortunately do not address the visible effects besides mentioning higher signal and standard deviation values for the shell case. A hypothesis and possible explanation of the effects would be helpful here. Unless this is addressed, this section provides no meaningful value to the paper and should be omitted.

- In the final sentence of the conclusion (p.13, line 202f), the authors claim, that the sensor with shell is also capable of detecting the TE separation angle and stall angle. This conlcusion is not fully supported by the plots in fig. 13 and the brief mention in section 4.4. While the local maximum of the standard deviation and the first increase of the signal value seem to be an indicator for TE separation, these increases occur with a slight delay compared to the C_L curve used as a reference. The authors should be more precise in distinguishing the results for the different setups.

Technical Comments

The labeling of the plots in figure 10 to 13 lacks a proper label for the y-axes as only the unit [Volts] or no label (right y-axis) is given. Meaningfull labels should be added
The naming and abbreviations of the angle of attack varies between angle of attack, angle of ancidence, AoA, AOA. This should be check and modified for constistency.
The spelling and grammar is spotty in some sections. It is recommended to have thourough check of the language, preferably by a native speaker.

p.2, line 32:
Colloquial writing: [...]high Reynolds number wind tunnel tests.

p.3, line 58:
End of sentecne: "." missing.

p.3, line 62:
Unit: kPa.

p.3, line 63:
Unit: remove space in Hz.

p.8, line 101:
Additional ",".

p.8, line 102:
Betwenn -> Between.
Transitionning -> Transitioning.

p.8, line 103 and other instances throughout:
apparition -> appearance.

p.8, line 105:
Betwenn -> Between.
Transitionning -> Transitioning.

p.9, line 119:
[...] have not any [...] -> do not have an / have no

p.9, line 121:
slopes -> slope

p.9, line 123:
explain -> explained

p.9, line 124:
[...] of e-Telltale [...] -> [...] of the e-Telltale [...]

p.9, line 125:
average -> averaged

p.9, line 131:
[...] angle of incidence [...] -> [...] angles of incidence [...]

p.11, line 155:
[...] more stiff [...] -> [...] stiffer [...]

p.11, line 185f:
AoA vs. AOA: one abbreviation should be used consistenly during the entire paper

p.12, line 195:
e-TellTale -> e-Telltale

p.13, line 202:
[...] concerns [...] -> [...] concern [...]