

Response to RC2

On Page 11: line 198,

For a single operational state, the influence of serrated structure on blade resonant frequency and blade passing frequency of entire rotor is particularly important from dynamic stability and loads analysis viewpoint.

Response

Thank you for this helpful comment. We agree that the original wording was too strong, because it could be interpreted as implying a confirmed influence of the serrated trailing-edge treatment on blade resonant frequency, blade-passing frequency, and rotor dynamic stability, which was not sufficiently supported by the results presented in the manuscript.

In the revised manuscript, this statement has been removed, and the fatigue-load discussion has been rewritten more cautiously. The revised discussion is now presented in **Section 5.3, lines 321–340**, where the focus is placed on the comparative DEL results and the observed spectral difference of the rotating-hub response under a representative operating condition, without attributing the features to blade resonances or blade-passing frequencies. We also state explicitly in **lines 338–340** that no direct modal attribution is made because the structural natural frequencies are not presented in this study.

On Page 12, line 218-219

After the serrated structure was installed on blades of turbine. the fluctuations of hub load spectra were observed as result of blade pitch angle fault conditions or imbalances in rotor which led to increase of extreme and fatigue loads on entire machine by 3% to 8%.

Response

Thank you for this helpful comment. We agree that the original conclusion statement was too strong and implied a direct causal relationship between the serrated trailing-edge treatment, hub-load spectral fluctuations, and the increase in extreme and fatigue loads. This level of attribution was not sufficiently supported by the present analysis.

In the revised manuscript, we have softened the corresponding conclusion and removed the overly strong causal wording. The revised conclusions are now stated in **Section 6, lines 343–352**, where we describe the load increase only as a **modest increase in several ultimate and fatigue load channels within the same simulation framework**, typically on the order of **3 % to 4 %**, and state that these differences should be considered in structural load assessment and safety-margin evaluation.