

# ***Interactive comment on “Investigating the loads and performance of a model horizontal axis wind turbine under IEC extreme operational conditions” by Kamran Shirzadeh et al.***

## **Anonymous Referee #2**

Received and published: 19 December 2020

The paper deals with a very interesting topic, moreover with an experimental approach. Some information is needed to clarify the experiments and the relation of these experiments with respect to a full scale turbine. Please find some comments below.

Section 3: No information about the turbine is provided. Could you provide relevant data of turbine design, blade control (collective - IPC), turbine control (fixed speed or controlled speed), operation of the turbine (is it working as a full scale turbine?) and similarity with full scale. Is it reasonable to make these extreme loads tests with a TSR of 1.1? Is there any similarity with a full scale turbine power extraction? or blade relative wind kinematics? If the blade is already all stalled there may not be a great sensitivity

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on the rotor performance.

Line 147 - typo: filed → field

Line 156 - The total number of signals should be 12 from Cobras (u,v,w), 6 from force balance, the proximity and the load terminals.

Line 156 - how are you computing TSR? what is your reference velocity?

Figure 3: very low quality image: could you please increase it.

Figure 6 - it could be useful to mark on each subfigure the beginning and the end of the extreme event.

Line 263 - The power generation peak and decay depends on the turbine rotor control, therefore it may be useful to have more details.

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Interactive comment on Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2020-110>, 2020.

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