

## ***Interactive comment on “Extreme fluctuations of wind speed for a coastal/offshore climate: statistics and impact on wind turbine loads” by Ásta Hannesdóttir et al.***

### **Anonymous Referee #2**

Received and published: 16 May 2018

This paper contains significant work that can assist in updating the Extreme Turbulence Model (ETM) of IE61400-1 in order to improve the prediction of extreme tower base fore-aft loads in the extreme design load case 1.3. There are a number of researchers connected with the IEC 61400 series maintenance teams as well as the IEA Wind R&D groups who think that the extreme wind condition modelling in the 61400 series does not reflect the kind of extreme wind events that occur in nature. This work is promising, particular if it is extended to consider other extreme design load cases such as EOG, ECD and EWS.

The scientific approach appears valid. I did wonder why TI was used to isolate the

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extreme variance events though. Why not just look at a plot of wind speed standard deviation versus wind speed? I also was not clear about the process of excluding measurements from the wake of nearby wind turbine. Was this exclusion of sectors covering 0 -180 degrees?

Presentation is very good in general. I have uploaded an annotated pdf with comments that may help to improve clarity. For instance, I think that the caption Figure 6 should refer to  $z = 119$  m since line 10 on page 12 mentions the time series are at hub-height.

Please also note the supplement to this comment:

<https://www.wind-energ-sci-discuss.net/wes-2018-12/wes-2018-12-RC2-supplement.pdf>

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Interactive comment on Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2018-12>, 2018.

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