

Interactive comment on “Characterisation of the Offshore Precipitation Environment to Help Combat Leading Edge Erosion of Wind Turbine Blades” by Robbie Herring et al.

Anonymous Referee #2

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This paper is significant and supplements a research topic treated by different authors to model and predict leading edge erosion of wind turbine blades. It is dedicated on a critical industrial and scientific challenge for wind industry nowadays. The paper is focused on the offshore precipitation environment characterization with the motivation of offering appropriate offshore droplet size distribution (DSD) as erosion lifetime predictions input data. The work also ponders results with particular approaches found on the literature.

The title and the abstract point out well the intention of the manuscript but the work lacks valid analysis or discussion in terms of its application on leading edge erosion

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lifetime modelling. I suggest specifying on the paper title its focus on the accuracy for the quantification of droplet size distribution in offshore conditions, which is an important improvement of great value for the scientific and industrial community. The paper does not propose any connection of the severity of erosion through the expected lifetime, even when its apparently focused on such influences. I recommend positively to complete the work on this analysis for possible scientific or industrial use.

The document is well structured (many other possibilities could be also possible) and states clearly the scope and methodology. Introduction and references discussion improvement is necessary in order to set the limits of the specific offshore application. Literature reviews of well-known Best model is used to pointing out the weakness or strengths of other authors proposals, but one can achieve valuable recommendations and likely directions for the essential improvements of the comparing results. The authors refer with assessed particular experimental data different results comparing with Best model and their proposed offshore DSD model. In order to categorize the results as a new model definition to be used in lifetime prediction methodologies, a unique location case and a unique year-season is used. I recommend completing the work on the statistical validation of testing results with other raw data sources comparing the presented model with the original one and the reasons for such extensiveness and validation.

I recommend this manuscript for publication after revision required. There have been outlined some recommendations to the authors to be considered.

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