

Wind Energ. Sci. Discuss., referee comment RC1  
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## **Comment on wes-2021-41**

Anonymous Referee #1

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Referee comment on "Damping Identification of Offshore Wind Turbines using Operational Modal Analysis: A Review" by Aemilius A. W. van Vondelen et al., Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2021-41-RC1>, 2021

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The paper presents a review on the identification of the damping of offshore wind turbines using operational modal analysis. It addresses a large number of algorithms from a diverse set of original principles, presenting both historical methods and their most recent counterparts. There is a relevant focus in the explanation of operational modal analysis, how the excitations normally affecting wind turbines violate the principles of operational modal analysis and how to deal with the harmonics that originate from the rotation of the turbine.

The paper is well-written and organized, with sequential development of ideas and an increase in concept-depth. The ideas presented are properly backed with relevant references and the conclusions derive directly from the analysis performed throughout the text.

The table resuming the methods addressed and their suitability to the estimation of damping, divided by particular application conditions, is especially interesting and useful.

As a negative point, it can be said that the fact that the work is focused in offshore wind turbines it is not always clear, which originates from the structural similarity to onshore wind turbines. The text would benefit from a small mention to the onshore counterparts, though this is not mandatory.

Finally, it is this reviewers' opinion that the paper can be accepted for publication.