

Reply to Reviewer (second review)

5 **Reviewer** I'm just concerned on the present paper and on what dataset was used to demonstrate the present method. It is still not clear for me how many simulated "strain gage" inputs/outputs did you use to identify your model ? In other terms, where the artificial strain gages are located in your model?

10 **Authors** This was clarified by modifying the text in Sect. 2.3.5 as follows: "Loads were measured on the aeroelastic model in a blade-attached reference frame located at the root of each blade, thereby simulating the presence of strain gages measuring flapwise and edgewise bending moment components, which were then transformed into out and in-plane rotor components by using the blade pitch angle. Next, the out and in-plane loads were decomposed into their harmonics at the $1 \times \text{Rev}$ and $2 \times \text{Rev}$ by the Coleman transformation and used, together with the corresponding wind states, for identifying the linear and nonlinear models used throughout this work."

Reviewer and how many "cases" did you run for the results given p20? I think the authors can answer by giving the value of the numbers N_{nodev} , N_{nodee} (Equation 16) and the number N_{exp} (equation 36) used to obtain results p20, that are not given in the article ?

15 **Authors** This was clarified by modifying the text in Sect. 2.3.5 as follows: "Fully parameterized steady winds were generated at $N_{\text{nodev}} = 10$ speeds $V = \{3, 4, 5, 6, 7, 8, 9, 11, 15, 19\}$ m/s, where for each different wind speed all possible 900 combinations of the following wind parameters were considered:

$$\phi = \{-16, -12, -8, -4, 0, 4, 8, 12, 16\} \text{ deg}, \quad (1a)$$

$$\kappa_v = \{0.0, 0.1, 0.2, 0.3, 0.4\}, \quad (1b)$$

20 $\chi = \{0, 4, 8, 12\} \text{ deg}, \quad (1c)$

$$\kappa_h = \{-0.1, -0.05, 0.0, 0.05, 0.1\}, \quad (1d)$$

resulting in $N_{\text{exp}} = 9000$ available observations." Notice that these numbers apply to all results presented in the paper, as stated in the modified text ("... for identifying the linear and nonlinear models used throughout this work").

Reviewer Also, by looking again at that figure 2, can you please add a colorbar ?

25 **Authors** The color represents only the value of the function, i.e. the elevation of the plot, and hence a colorbar is not necessary. Although redundant, the use of the color helps understand the actual shape of the function. We modified the figure caption as follows to clarify this point: "The color indicates the value of the function, i.e. the elevation of the plot."

Best regards
The Authors