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**Title:** “Wind inflow observation from load harmonics: wind tunnel validation of the rotationally symmetric formulation”

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### **General comments:**

This paper is in the continuity of the linear formulation black box model developed by Marta Bertelè et al. (2017) to predict the mean wind state inflows (shears and misalignments) from wind turbine loads. This paper presents an improvement of this formulation using the rotational symmetry of loads from this simple idea: effects on the loads of the vertical shear and misalignment are the same as those of the horizontal quantities shifted by  $\pi/2$ . Then, this new formulation that enable the use of a reduced dataset for the model identification, was successfully validated in the simulation environment and in wind tunnel experiments.

The idea of the paper and how it was validated is worth for publication. The paper is well written and clear. I thus recommend the publication of the paper with minor corrections (see below).

### **Minor corrections:**

P10: “the respective ground truth for each test not included in the identification set”

Can you please specify the test cases used here ?

The critical dataset to evaluate the rotational symmetry would be to use the  $\pm 6^\circ$  of vertical misalignment (upflow angle) to identify the model, and then the use of a dataset with different yaw misalignments to test the performance of the observer. Did you tried that ?