

## Authors' response to reviewer 2

We thank the reviewer for the valuable comments and suggestions, which we consider very important and help us sharpen and improve the manuscript. Here are our responses to each comment.

The authors response is shown in green.

### General comments:

Table 1: Title center

The titles' format are following the publisher's tex template.

Could you please provide some more details as to how the controller was tuned, in case somebody would like to reproduce these results. Or can the controller also be released to the public?

Thanks for your question. A reference describing the controller tuning in details is added to the text. The source code of the ROSCO controller itself is open access and can be found at [1]. We did not do any changes to the controller's source code. We only tuned the controller gains, which can be found in the ServoDyn file in the OpenFAST models.

Suggest plotting different line styles (dashed) to be able to differentiate and/or show that they overlap exactly. Otherwise you literally don't see the plot w/o QTF

All figures are updated following this suggestion.

For these plots and almost all other plots, it would be extremely helpful to have the natural frequency of the floater and, when appropriate the wave forcing frequencies in the plots also (as vertical lines simply). This allow instant recognition and supports the statements made in the text.

All figures are updated following this suggestion.

All minor changes for spelling mistakes and structure are now implemented in the text.

## References

[1] NREL. ROSCO. Version 1.0.0, 2020.