Interactive comment on "Modern methods for investigating the stability of a pitching floating platform wind turbine" *by* Matthew Lennie et al.

Anonymous Referee #2

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GENERAL The paper 'modern methods for investigating the stability of a pitching floating platform wind turbine' basically deals with two topics: 1) the validation of a new implementation of the lifting line free vortex wake (LLFVW) method with rotor motion and 2) a new approach for analysis of stability of floating wind turbines. Combining these in a single paper is understandable, but leaves the reader with many questions. Validation is such an important aspect, that a seperate paper on this topic would be justified. The same holds for the damping analysis of the complex behavior of a floating wind turbine. This said, the paper is worth publishing given some parts will be revised.

SPECIFIC - different references are used for the specification of the validation cases. this is strictly sufficient, but sometimes difficult for the reader. - a thorough discussion of the validation results (fig3-5) is missing. on pg6&17 the results are mentioned to be in good/excellent agreement, while there seem to be differences between the models.

- the influence of non-sinusoidal thrust is briefly discussed. what is the effect of the assumptions taken in the analysis approach? - pg15 the cyplic pitch case is mentioned to be unrealistic, but demonstrative. adding a realistic case would increase the value of the discussion. - what is the reason for the (case insensitive) difference between IAD and CAD (tab1)? - how does the instantaneous damping vary with time during a cycle? adding a figure showing this would help.

TECHNICAL CORRECTIONS - fig5 (legend unclear) - fig6&7 (axis labels missing, legend unclear) - nomenclature: symbols in equations and text undefined - pg9 what are F and G functions? - pg17 reformulate 'giving some manner of confidence'

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