Reviewer #2

This paper is concerned with the investigation of IFF control for rotating platform applications. The paper is interesting and well-written where some novel results have been obtained. I recommend revision of the manuscript considering the following comments.

Dear reviewer, thank you for your helpful comments. They were very effective in improving the quality of the manuscript. We have addressed them in the paper.

The 'Introduction' section should be improved, for example by clarifying the state of the art of the applications of IFF and its modified schemes and highlighting the differences between IFF and other active damping approaches.

Thank you for noticing the lack of relevant references. The introduction has been reworked. Many references have been added to clarify the applications of active damping, the different active damping techniques and how IFF compares with them. Some proposed improvements to the classical IFF have also been included.

In this context, do other active damping approaches like direct velocity feedback also suffer from the instability issue induced by rotations of the platform?

Thank you for this very interesting question.

As the control gain goes to infinity, the finite eigenvalues coincide with the transmission zeros. Moreover, the transmission zeros for IFF and DVF are well explained in [1] :

> *The transmission zeros coincide with the pole of a modified system which depends on the sensor configuration. For a velocity sensor, the modified system is the constrained system where the degree of freedom along which the control operates is blocked. For a force sensor, the modified system is obtained by removing the contribution of the active member to the global stiffness matrix of the structure.*

Therefore, there is indeed no problem of instability induced by the rotation when using DVF as it is the case with IFF.

It was initially planed to add a section about Direct Velocity Feedback (DVF) but we decided not to do it in order to keep the paper concise and only focused on IFF.

[1] *Preumont, Andree, De Marneffe, B., & Krenk, S., Transmission zeros in structural control with collocated multi-input/multi-output pairs, Journal of guidance, control, and dynamics, 31(2), 428–432 (2008).*

The authors may also want to condense the paper such that it is written in a concise and clear way more appropriate for a technical paper. For example, Eqs. (4a) and (4b), Figure 2 and Figure 13 are not necessary to be included.

Equations (4a) and (4b) as well as Figure 13 have been removed.

Also, we realized that Figure 2 and 3 were taking too much space in the manuscript that was sent to you. This was an error made in the LaTeX file. Their sizes are now much reduced in the revised version.

As for Figure 2, we believe that it is a nice an intuitive way to understand how to poles of the systems are changed as a function of the rotating speed.

The control plants have been clearly studied, but it is not the case for the disturbance path. The authors should indicate how the disturbances for example the ones in Figures 19 and 20 are propagating to the system.

Thank you for noticing this lack of explanation about transmissibility and compliance.

The transmissibility and the compliance are now better defined in Section 6.

Some typos and gramma errors must be avoided for the future submission.

The manuscript has been carefully checked for all typos and grammar errors, and hopefully all of them have been corrected.