

Response to Reviewer 1 Comments

Thank you for your valuable comments and suggestions. We have edited our manuscript to include the comments which have helped to improve the quality of our research article. Please find the changes detailed as follows:

Point 1: The "tangential threshing condition" in the title is not a commonly used professional vocabulary. It is recommended to replace it with a more accurate professional vocabulary.

Response 1: Thank you for the suggestion. We decided to change the title to "Vibration analysis of roller bearing of a tangential threshing drum of combine harvester for the smooth and continuous performance of agricultural crop harvesting"

Point 2: The reference [7] does not mention that the accelerometer should be mounted at 45° with the horizontal radial axis, nor does it give the reason for such installation, and whether the author has quoted the wrong document

Response 2: Thank you for the review. The citation has been improved (Line 50).

Point 3: The author proposes to adjust the speed of threshing drum by adjusting the speed of engine (line 98-100) . However, the engine is the power source of the whole harvester, and its speed adjustment will affect all working parts, making them unable to harvest grains normally. Please explain the rationality and reason of this speed regulation method and selection of 220, 290, 410, 470 RPMs.

Response 3: Thank you for the suggestion. These engine speeds mentioned are considered from the real operating speed during the harvesting period on a farm from low to a high-speed range which was obtained from the operators themselves and the corresponding speed at a threshing unit is obtained from the inbuilt sensor mounted in Massey Ferguson series of combine harvester. The explanation is now mentioned in the manuscript (Lines 108-112).

Point 4: The test requirements in lines 118 to 133 are common sense and principled., No specific measures are given to realize these requirements. It seems that such content should not appear in research papers.

Response 4: Thank you for the suggestion. Those texts are removed from the manuscript (lines 118 to 133).

Point 5: The content of Figure 7 is inconsistent with the description of line 181 in the text.

Response 5: Thank you for the review. The texts have been improved on the manuscript by performing the modal analysis of the assembled threshing drum (Figure 7).

Point 6: The mass of the accelerometer relative to the support is not negligible. The modal frequencies of the two devices will be significantly reduced after they are mounted together. Similarly, the modal frequencies obtained by modal simulation calculation of each part alone cannot prove that the modal frequencies of the whole device will not be the same as the excitation frequency. It is suggested that the author give the modal frequency of threshing drum.

Response 6: In this research, the modal analysis of the components and the bracket separately is intended only for performing the comparative study of the natural frequencies to avoid resonance. Regarding your point, I have updated the assembled constrained modal analysis of the threshing drum (lines 196-213) to study deformation and mode shapes.