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Journal Name:	**Journal of Scientific Research and Reports**
Manuscript Number:	**Ms_JSRR_49706**
Title of the Manuscript:	**Modal analysis and optimization of typical parts of 2K-V reducer**
Type of the Article	**Research article**

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	The paper addresses the analysis and geometric optimization of a particular mechanism application by using a finite element procedure to model the geometry of the device. Modal analysis is used as an optimization criterion in order to avoid resonance in the solid. I believe the paper is interesting and provides sufficient technical developments to be accepted for publication in a future revised form. In order to do so, some important points are to be addressed first. General comments: 1) For a better clarity of the exposition, the text must be thoroughly revised in search for grammatical and punctuation errors (spacing and capitalizing in particular, but also conjugation). Some sentences are a bit confusing and need rewriting. From this reviewer point of view, this point is mandatory for the paper future acceptance. 2) The overall formatting of the text need to be revised as many parts of the equations, figures and tables are spread out of place and difficult to be readily understood. Specific comments: 3) After the abstract and keywords, the introduction topic should be identified as "1. Introduction". 4) Line 31, the sentence "To this end, a large number of research conducted by researchers in various universities and research institutions in China." appears to be incomplete. 5) Line 32 the statement "It can be seen from the related literature that there are few studies on the inherent characteristics of the needle wheel" could be improved by adding references to those studies. 6) The needle wheel could be indicated in Fig. 1 when describing the schematics of the 2K-V type reducer to better identify the main object of the study. 7) Line 90, instead of "we can simplify the complex dynamic equation to equation (2)." I suggest "we can simplify the complex dynamic equation to the undamped case as given by equation (2):". 8) Lines 97-99, a textbook reference could be given to this passage. The capital U in the equation in line 97 is not defined in the text. In fact, the presence of this equation does not help in the exposition at all. I suggest removing it and give the proper reference to the passage instead. 9) Line 108, "We used solidworks 2016…". Also give a proper reference to the software in the reference list. 10) Line 110, no need for "Etc". 11) Lines 113-114, I believe the reference should be Figure 2. Also, the axis in this figure should be more visible and identified similarly to Figure 7. 12) Line 114, clarify in the text if "Workbench" refers to Solidworks or Ansys. If the latter, give it a proper reference. 13) About item 3.1: the geometrical properties of the solid were not presented in the text. It is important that they be detailed for the reproducibility of the model. The same observation is valid for the geometry of the optimized model. If the dimensions of the RV110E reducer can be found in the technical medium please refer to a document containing them. But even so, it would be good to provide at least some general values for the internal and external radius, thickness, width, etc. 14) In line 153, as the model is of a finite element discretization, instead of "cells" it would be preferred "elements". In addition, what order of approximation was used	

	for the displacement field of the tetrahedral elements? From the figures, it appears to me the elements are linear. Is it? As the geometry is circular, where tests made with other orders of approximation? Did it influenced the results? 15) Line 167, which are the two types? What is the relation of the types with reference [6]? 16) About item 3.4: for clarification on were the constraints are placed it may be interesting to add a figure indicating the constrained region. 17) The axis could be indicated in Fig. 6 along with the scale for the displacements given in colour. I also suggest showing this image from another perspective as well. 18) The first paragraph in section 4 is a bit confusing. Some improvement is needed for clarification. 19) Line 218, is the output speed in “rad/s”? 20) The fonts in Fig. 8 need to be bigger and the curves have to be identified. 21) The same observation made for Fig. 6 is valid for Fig. 9.	
Minor REVISION comments		
Optional/General comments		

PART 2:

	Reviewer’s comment	**Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

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