|  |  |
| --- | --- |
| Journal Name: | [**Journal of Engineering Research and Reports**](https://journaljerr.com/index.php/JERR) |
| Manuscript Number: | **Ms\_JERR\_133854** |
| Title of the Manuscript: | **Computational Analysis and Optimization of a Crab-Type MEMS Accelerometer for Wide-Range Acceleration Sensing** |
| Type of the Article | **Original Research Article** |

|  |
| --- |
| **PART 1: Comments** |
|  | **Reviewer’s comment****Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | **Author’s Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | Accelerometers are capable of measuring acceleration, tilt, and vibration or shock, and, as a result, are used in a diverse range of applications from wearable fitness devices to industrial platform stabilization systems.MEMS based accelerometers have already penetrated defense programs including navigation controlling addition to their usual deployment in automotive, consumer and industrial markets because of their improved reliability, accuracy and excellent price performance.As the Crab-Type MEMS accelerometer exhibits high sensitivity, stable frequency response, and strong shock resistance, making it ideal for precision sensing applications in aerospace, automotive and healthcare. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Alternative title: Real time Analysis of of a Crab-Type MEMS Accelerometer for Wide-Range Acceleration Sensing |  |
| **Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.** | Yes the abstract of the title is Comprehensive. |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript is scientifically correct as there is detailed stable operation of accelerometer that ensures stable operation under high impact conditions making it suitable for consumer applications to aerospace, automotive and healthcare. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | Need to add more references and also the references which are included in the manuscript are published below 2010. Not a single reference is from above 2020.Hence latest published references need to be added. Here are some example references.1. [Highly Reliable Multicomponent MEMS Sensor for Predictive Maintenance Management of Rolling](https://www.mdpi.com/2072-666X/14/2/376) [Bearings;](https://www.mdpi.com/2072-666X/14/2/376) Elia Landi**,**Andrea Prato**,**Ada Fort**,**Marco Mugnaini**,**Valerio Vignoli**,**Alessio Facello**,**Fabrizio Mazzoleni**,**Michele Murgia **and**Alessandro Schiavi

Micromachines 2023, 14(2), 376; [https://doi.org/10.3390/mi14020376 - 2 Feb 2023.](https://doi.org/10.3390/mi14020376%C2%A0-%202%20Feb%202023)1. M. S. Golovinskiy, S. M. Kruchinin, A. S. Musatkin, M. M. Burakov and P. A. Gornostaev, "Technological Design of the MEMS-Accelerometer Sensor Element for Ultra-Large Acceleration Ranges," 2020 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering (EIConRus), St. Petersburg and Moscow, Russia, 2020, pp. 2135-2138, doi: 10.1109/EIConRus49466.2020.9039038.
2. Design and simulation of dual-axis MEMS accelerometer, Materials Today: Proceedings, [https://doi.org/10.1016/j.matpr.2023.05.569,](https://doi.org/10.1016/j.matpr.2023.05.569) 2022.
 |  |
| **Is the language/English quality of the article suitable for scholarly communications?** | Yes the article is suitable for scholarly communications. |  |
| **Optional/General** comments | 1. **Equation numbering is not given from sections 3.3.1 onwards.**
2. **All the references should be updates as there were very old. New published articles should be considered for references.**
3. **slight corrections in Figure numbering. (Figure 4, Figure 5 and First 3 figures is mentioned in the text as figure 1, figure 2, figure 3).**
 |  |

|  |
| --- |
| **PART 2:** |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with the 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 detail)*No |  |

**Reviewer details:**

**K.Evangili Supriya, Srinivasa Ramanujan Institute of Technology, India**