

Review of the paper entitled "Development of a novel seat suspension based on the cubic Stewart parallel mechanism and magnetorheological fluid damper" by Teng Ma, Tiejun Li, Guoxi Jing, Hai Liu and Fengrong Bi.

1. Introduction

The work entails a multi-degree-of-freedom (MDOF) seat damping suspension, based on the cubic Stewart mechanism and Magnetorheological fluid (MRF) damper, to alleviate the impact and vibration of the driver in multiple directions during the driving of non-road vehicles. Semi-active control methods are proposed.

2. Analysis of the paper

In the Reviewer opinion, the present technical note could be of interest to the readers of Applied Sciences. Indeed, the topic is relevant and scientifically founded. However, some critical aspects, detailed in what follows, should be properly reconsidered by the authors before the paper can be accepted for publication.

Major remarks:

1. The presentation of the paper must be substantially improved.
 - For example, a part describing the outline of the paper (that is, the topics covered in each section) should be inserted in the "Introduction" to guide the reader. In general, the reader struggles to follow the logical thread of the work. Moreover, in the reviewer opinion, the paper is too repetitive: many concepts could be described in a more concise way.
 - All acronyms appearing in the text should be specified at least once; for instance, DC, BP, NB, NS, ZE and so on.
 - An image of the object of study should be provided from the beginning otherwise the reader does not understand. Figure 8 is unclear.
 - The differences between the passive control and the semi-active control should be better explained.
 - And so on.
2. Most of the conceptual aspects and the used methods should be explained with greater mathematical rigor; especially, the models described in Sect. 2.2 and Sect. 5.1.
 - First, some words/calculations should be spent to better describe how the equations of the models were obtained; many times this is not clear.
 - The numbering of all equations is confusing and wrong.

- All the quantities appearing in the equations should be properly defined; for example, theta in Eq. (2); pi and si in Eq. (3); R in Eq. (6), Lin Eq. (9), x2 and x1 in Eq. (12) and so on. Moreover, does the dot indicate the time derivative? it should be specified.
- All vectors should be indicated in the text in bold style.
- Some formulas may contain errors, such as Eq. (2) and Eq. (12), where a time-derivative is missing; the reviewer recommends reviewing them.
- In figure 6 it would be more significant to see the percentage error rather than the absolute one; - And so on.

Minor remarks:

1. Minor stylistic remarks and error in the text:

- Pag. 2: missing spaces and punctuation near the references [8] and [9] and the word "platform";
- Pag. 5: the term c0 in the text;
- Table 1: the numerical values should be accompanied by the units of measurement;
- Table 2: NON-italic units of measure;
- Pag 13: the reference to figure 14 is incorrect -> figure 13;
- Pag. 15: hz ->Hz;
- Pag 16: in the text *and* ->and; vrel and vs in the text do not correspond to the terms used in Eq. (13); the reference to equation 20 is incorrect; - And so on.

3. Conclusions

The paper can be accepted for publication in Applied Sciences only after the suggested remarks are properly reconsidered.