Review of: "Simulation of Control System for a Half-Car Suspension System for Passenger Vehicle Application by Designing an LQR Controller"

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Potential competing interests: No potential competing interests to declare.

In this paper, a mathematical model of a four-degree-of-freedom half-car active suspension system using an LQR controller is proposed. Simulations were performed using MATLAB/Simulink. The simulation uses two rugged sinusoidal roads and a random road input. The simulation results show that the study improves the modeling and control abilities of the system, and the reviewers also have the following opinions:

1. The font in the text is not uniform in many places; please check and modify.
2. Figure 1 is not clear; please replace it with a clearer version.
3. The title of Figure 4 should be placed on the same page as the picture, and the legend specifications should correspond.
4. The first occurrence of "ISO" in the text below Figure 4 should explain its meaning.
5. The title of Figure 5 does not match the legend; please modify.
6. Figures 6 and 10 have traces of modification; please provide the standard versions.
7. Formula 10 is incorrect; please check and modify.
8. There is a problem with the layout of the text at the beginning of page 5; please modify it.
9. The picture of Figure 10 and the title of the picture should be placed on the same page.
10. On page 5 of the article, "physical model based on Figure 2" is mentioned, where Figure 2 is a state space representation block diagram, which is not clear and should be modified.
11. In Chapter 3 on the design of the control system, it is mentioned that PID and LQR controllers are used in this study, but PID controllers are not reflected in the following text.
12. The "G" matrix in the text is not reflected in the state space representation block diagram; please explain its meaning.
13. There are many problems with the formula format and font in the text; please check and modify.
14. The title of 4.3 in the text does not correspond to the content, and some simulation results are missing; please supplement and modify.
15. The reference format is incorrect; please modify.