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

Mohamed Belhorma

Potential competing interests: No potential competing interests to declare.

The presented article deals with the inclusion of a vehicle dynamic model in optimal active control of the suspension to improve its performance. The process is clear and can provide a good basis for further in-depth research. Despite this, authors can work more on the unification of the form. Figures 4 and 5 are not mentioned in the text. The dynamic responses associated with each type of obstacle need clarification. It will be better to illustrate the Simulink model used. In Figure 4, the difference between the curves of profiles B and C is almost non-existent even though profile B is smoother than C. For future work, ride comfort can be well presented by the acceleration of the chassis (or its Root-Mean-Square) which improves as the acceleration decreases. The road holding can be presented by a combined function of the front and rear tire loads. Finally, the modulus of the instantaneous displacement vector between the suspension attachment points can be a good function to measure the workspace. Therefore, an appropriate dynamic model can be chosen for further analyses. The document is acceptable overall and requires some improvement.