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

Seungbok Choi[1]

1 Inha University

Potential competing interests: No potential competing interests to declare.

This paper presents a 4-DOF half-car active suspension system empolying LQR controller and the results are obtained for Matlab/Simulink. In the simulation, two different bumpy sinusoidal roads and a random road are applied to road profiles.

1. The technical originality of this work is too weak. So far, there are many works on the optimal control for active and semi-active suspension system to improve the rie comfort and the road holding property. This work did not present any impressive result.
2. The significant problem of this work is the lack of the actuator characteristics. Sevral chateristics of the actuators for active control such as response time and actuating force level should be presented.
3. All of results have been presented in time domain. Thus, it is very diffucult to understand how much vibration are controlled. The results should be presented in frequency domain to observe the peak value at the resonance reange.
4. How much asctive fore have been applied to achieve the results shown Figure 6-13? The comparison of the applied force is required for the active suspension system.
5. In conclusion, this paper should be rejected in its current form.