

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.

This manuscript addresses the problem of vibration damping in wheeled vehicles by designing an active controller using the LQR method. The active control suspension is capable of adjusting the actuation force between the sprung mass and unsprung mass in real time according to the road conditions, which enables the vehicle to better dampen the vibration. However, there are still some areas that can be improved in this manuscript.

1. It is well documented that active suspensions can achieve better damping than passive suspensions. If this paper is to prove that the proposed method has a greater advantage, it should be compared with other active control methods rather than comparing active suspension with passive suspension.
2. A frequency domain analysis is necessary for the analysis of suspension performance.
3. The MATLAB/Simulink model used for simulation should be illustrated.
4. There are some writing errors in the manuscript, such as inconsistent case of units, which need to be corrected.