

# 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.

The basic function of the suspension system is to maintain constant contact of the wheels with the road surface, ensure the adhesion of the vehicle wheels to the road surface and isolate the vehicle body from vibrations caused by road surface irregularities. Properly selected suspension parameters improve travel comfort and driving safety.

A comprehensive mathematical model of a flat car with an active and passive suspension system was presented.

Analyses were carried out for a car model with passive and active suspension. The values of vibration amplitudes and vibration velocities were compared.

When assessing the suspension system, the frequency range of vibrations transmitted by the body is important. Changing the suspension damping affects the ranges of transmitted frequencies and such a graph should be included in the summary of the article.

Detailed notes:

Check the relationship on  $K$

In Figure 5 a and b, the legends are the same