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 author has established a half-vehicle pitch suspension model and designed an LQR controller to improve the vertical vibration performance of the vehicle. The work is valuable, but not innovative, as similar studies have already been published. Other main issues include:

1. In the dynamics modeling, there seems to be a problem with equations 1-4. Taking equation 1 as an example, the term "*ksf (xsf-xuf-L2*theta)"* includes the deformation of the spring due to *"xsf-xuf",* so why subtract *"L2*theta*"? Should it be "*ksf (xs-xuf-L2*theta)*" instead? It is suggested to double-check.

2. The data in Table 1 shows that the rear suspension spring stiffness is much smaller than the front suspension spring stiffness, which seems unreasonable.

3. It is also recommended for the author to provide information about the control force of the actuator.