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

Himanshukumar Patel[1]

1 Dharmsinh Desai University

Potential competing interests: No potential competing interests to declare.

This study has proposed a mathematical model for a 4-DOF half-car active suspension system (ASS) employing an LQR (Linear Quadratic Regulator) controller. The task is simulated using MATLAB/Simulink software. The unsprung masses of the wheels' heave displacements, the vehicle's pitching dynamics, and the sprung masses of its body's heave displacements are the regulated parameters. Compared to the antiquated passive suspension technology, its performance is superior (PSS). The simulation uses two bumpy sinusoidal roads and a random road input.

However, in the article some recent work done should be added in the field of metaheuristic optimization algorithms with fuzzy logic system, some of the recent work includes into the introduction section and discuss the how the proposed algorithm is different or better.

(1) DOI: 10.3390/mca27060089

(2) DOI: 10.1080/00051144.2022.2061818

(3) DOI: 10.1108/IJICC-01-2022-0011

(4) DOI: 10.1108/IJICC-09-2021-0204

(5) DOI: 10.1108/IJICC-02-2021-0024

(6) DOI: 10.1108/IJICC-08-2020-0104

(7) DOI: 10.1108/IJICC-11-2020-0174

(8) DOI: 10.1007/978-3-030-81561-5_16

(9) DOI: 10.1016/j.ifacol.2022.07.494

(10) DOI: 10.1109/ANZCC53563.2021.9628361

(11) DOI: 10.1016/j.ifacol.2022.04.117

(12) DOI: 10.1007/978-3-031-39774-5_66

(13) DOI:10.21307/ijssis-2019-004

(14) DOI: 10.4018/IJAEC.315637

(15) DOI: 10.1016/j.fraope.2023.100038

(16) DOI:10.1016/j.ifacol.2022.09.059

However the paper can be accepted after the minor revision.