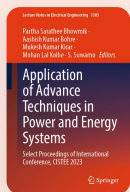


[Home](#) > [Application of Advance Techniques in Power and Energy Systems](#) > Conference paper

PID and Neural Network Control Design for Quarter-Car Passive Suspension System

| Conference paper | First Online: 20 April 2025

| pp 43–55 | [Cite this conference paper](#)



**[Application of Advance Techniques
in Power and Energy Systems](#)**
(CISTEE 2023)

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Abstract

This article presents two different techniques for oscillation control of Quarter-car passive suspension of a vehicle. A mathematical analysis of the proposed system has been done and simulated using an auto-tuned proportional-integral-derivative (PID) controller. The results of PID were further used for training of an artificial neural network (ANN) controller. The primary aim is to stabilise the system in minimal settling time and overshoot range. The ANN controller has been trained using Levenberg–Marquardt algorithm and output was monitored in terms of settling time