

Case study

Topic: Application of wavelet neural network in active vibration control

DESCRIPTION:

In this case study, the applicability analysis of adaptive wavelet neural network for nonlinear vibration control is the primary goal. As a results, literature review should be carried out to study the available methods and to evaluate their performance. Observer-based techniques in disturbance rejection control, as the generalization of the state feedback control, should be applied to the network. Accordingly, the application of this combination is investigated in active vibration control of mechanical systems in simulation and possibly experiment.

Observer-based wavelet neural network as an adaptive technique in rejecting the disturbance in systems with large uncertainties of modelling has lots of practical interest.

REQUIREMENTS:

Knowledge of neural networks and stability analysis
Good programming skills in MATLAB

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Mechanik
adaptiver
Systeme



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