

Abstract

This paper presents an on-line design and implementation of a neural network-based adaptive mechanism for active vibration control (AVC) of flexible beam structures. Back propagation (BP) training method is used with multilayer perception network for system identification and controller design, with one step ahead (OSA) prediction and correlation tests being utilized for arriving at suitable network structure. Simulation results demonstrating the performance of the system with different types of excitation are presented and discussed.