An Optimal Control Problem for A Generalized Vibration System in Estimating Simultaneously the Optimal Control Forces

by

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Abstract

The optimal control problems for a generalized vibration system based on the the Conjugate Gradient Method (CGM) is examined in the present study in estimating simultaneously the optimal control forces for a damped system such that the desire (or design) system displacements can be satisfied.

The numerical experiments are performed to test the validity of the present algorithm by using three different types of desire system displacements. Results show that excellent estimations on the optimal control forces can be obtained simultaneously with arbitrary initial guesses within a couple of second's CPU time at Pentium III-500 MHz PC.