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Authors:

S. R. Desai

Rajendra Prasad

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Abstract

A Big Bang-Big Crunch Optimization Algorithm (BBBCOA) is availed in the design of PID controller. A sixth order system is reckoned and is scaled down to second order with the help of BB-BCOA, Particle Swarm Optimization(PSO), Genetic Algorithm (GA) Hankel Norm Approximation (HNA). Later, a controller is designed by approximate model matching technique in the Pade sense. The procedure followed is justified by the step responses of the closed loop transfer functions obtained. In the indirect case, initially controller is designed for the original system under test and the overall closed loop model is reduced to third order. The concept is exemplified and the responses are seen to be comparable.

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Index Terms

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