Abstract

In this paper we propose a direct adaptive neural network strategy for a class of unknown nonlinear single-input single-output systems. The adaptive controller is based on PID neural network. The PID neural network defines three neurons with the function of proportional (P), integral (I) and differential (D), into a neural network. PID neural network parameters are obtained using back propagation learning algorithm. Simulation results have been presented here in illustrate the effectiveness and accuracy of the proposed control strategy for tracking unknown single-input single-output (SISO) nonlinear discrete-time systems with and without long time delay.

References


**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

PID Controller, Neural network, Back Propagation algorithm, time delay systems, direct adaptive control.