

短文

基于广义基函数的CMAC学习算法的改进及收敛性分析

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摘要

基于广义基函数的CMAC(Cerebellar Model Articulation Controller)学习算法(称 C-L算法)收敛条件依赖于基函数和学习样本,很难同时满足学习快速性与收敛性.提出了一种改进学习算法,并证明改进算法是收敛的,而且收敛条件不依赖于基函数和学习样本.仿真结果表明改进算法优于C-L算法和标准的Albus算法.

关键词 [CMAC](#) [学习算法](#) [基函数网络](#)

分类号

Improved Algorithm of CMAC with General Basis Function and its Convergence Analysis

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Abstract

The convergence of the learning algorithm for the CMAC (Cerebellar Model Articulation Controller) with general basis functions, presented by Chiang& Lin, is associated with the selected basis functions and the sample data during learning. Therefore, it is difficult for the algorithm to obtain high learning speed as well as learning convergence. In this paper, we propose an improved algorithm and prove that its convergence does not depend upon the choice of basis functions or sample data. The simulation results demonstrate that the improved algorithm has a better learning performance than C-L algorithm and general Albus algorithm.

Key words [CMAC](#) [learning algorithm](#) [basis function networks](#)

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