

论文与报告

## 蚁群算法在系统辨识中的应用

汪镭,吴启迪

同济大学电子与信息工程学院,上海

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摘要

将传统用于离散空间问题求解的蚁群算法引入连续空间内的系统参数辨识问题求解,定义了各智能单蚁的信息量分布函数和相应的系统辨识求解算法,并在线性系统参数辨识的实例仿真中得到了很好的结果,显示了蚁群算法在连续空间优化问题中的应用前景.最后,对蚁群算法在连续空间优化领域中的适用特征作了总结,并指出了今后进一步工作的方向.

关键词 [蚁群算法](#) [连续空间寻优](#) [系统参数辨识](#)

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## Ant System Algorithm Based System Identification

WANG Lei,WU Qi-Di

Electronics and Information Institute of Tongji University,Shanghai

Abstract

The ant system(AS) algorithm which is often applied to discrete space problem solving is introduced into system parameter identification problem solving in the continuous space. Corresponding identification algorithm is described and trail distribution function of each intelligent ant is defined. Good simulation results are derived in the example of linear system parameter identification, thus the potential of AS algorithm's application to the optimization problems in continuous space is proved. At the end of this paper, the applicability characters of AS application in continuous space optimization problems are summarized, and direction of further study is given.

Key words [Ant system algorithm](#) [continuous space optimization](#) [system parameter identification](#)

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通讯作者 汪镭

作者个人主页 汪镭;吴启迪

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