

Web of Science

Search

Search Results

My Tools ▼

Search History

Marked List 10

 Look Up Full Text

Save to EndNote online ▼

Add to Marked List

18 of 27

Novel Adaptive Charged System Search algorithm for optimal tuning of fuzzy controllers

By: [Precup, RE](#) (Precup, Radu-Emil)^[1]; [David, RC](#) (David, Radu-Codrut)^[1]; [Petriu, EM](#) (Petriu, Emil M.)^[2]; [Preitl, S](#) (Preitl, Stefan)^[1]; [Radac, MB](#) (Radac, Mircea-Bogdan)^[1]

[View ResearcherID and ORCID](#)

EXPERT SYSTEMS WITH APPLICATIONS

Volume: 41 Issue: 4 Pages: 1168-1175 Part: 1

DOI: 10.1016/j.eswa.2013.07.110

Published: MAR 2014

[View Journal Impact](#)

Abstract

This paper proposes a novel Adaptive Charged System Search (ACSS) algorithm for the optimal tuning of Takagi-Sugeno proportional-integral fuzzy controllers. The ACSS algorithm is based on the acceleration, velocity, and separation distance parameters of the worst charged particles' fitness function values. The ACSS algorithm solves the optimization problem expressed as the sum of absolute control error plus squared control effort. The ACSS algorithm is applied to second-order servo systems with an integer-order PID controller. The results are confirmed by an experimental case study dealing with the optimal

Citation Network

33 Times Cited

48 Cited References

EXPERT SYSTEMS WITH APPLICATIONS

Impact Factor

3.928 **3.526**
2016 5 year

JCR® Category	Rank in Category	Quartile in Category
COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE	18 of 133	Q1
ENGINEERING, ELECTRICAL & ELECTRONIC	37 of 262	Q1
OPERATIONS RESEARCH & MANAGEMENT SCIENCE	3 of 83	Q1

Data from the 2016 edition of [Journal Citation Reports](#)

Publisher

nonlinear servo system. (C) 2013 Elsevier Ltd. All rights reserved.

Keywords

Author Keywords: [Fuzzy logic-based Adaptive Chaotic Control](#); [Process gain sensitivity](#); [Sensitivity model](#); [Sensitivity analysis](#)

KeyWords Plus: [OPTIMAL-DESIGN](#); [SERVO SYSTEM](#)

Author Information

Reprint Address: Precup, RE (reprint author)

+ Politeh Univ Timisoara, Dept Automat & Appl Informat, 600006 Timisoara, Romania.

Addresses:

+ [1] Politeh Univ Timisoara, Dept Automat & Appl Informat, RO-300233 Timisoara, Romania

+ [2] Univ Ottawa, Sch Elect Engr & Comp Sci, Ottawa, ON K1N 6N5, Canada

E-mail Addresses: radu.precup@aut.upt.ro; davidradu@gmail.com; petriu@eecs.uottawa.ca; stefan.preitl@aut.upt.ro; mircea.radac@aut.upt.ro

Funding

Funding Agency	Grant Number
Romanian National Authority for Scientific Research, CNCS - UEFISCDI	PN-II-ID-PCE-2011-3-0109
PN II program of the Romanian National Authority for Scientific Research ANCS, CNDI - UEFISCDI	PN-II-PT-PCCA-2011-3.2-0732
NSERC of Canada	

[View funding text](#)

Publisher

PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND

PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND

ISSN: 0957-4174

eISSN: 1873-6793

Research Domain

Computer Science

Engineering

Operations Research & Management Science

Close Window

[View All](#)

This record is from:

Web of Science Core Collection
- Science Citation Index Expanded

Suggest a correction

If you would like to improve the quality of the data in this record, please [suggest a correction](#).

Categories / Classification

Research Areas: Computer Science; Engineering; Operations Research & Management Science

Web of Science Categories: Computer Science, Artificial Intelligence; Engineering, Electrical & Electronic; Operations Research & Management Science

Document Information

Document Type: Article

Language: English

Accession Number: WOS:000330158700022

ISSN: 0957-4174

eISSN: 1873-6793

Journal Information

Table of Contents: [Current Contents Connect](#)

Impact Factor: [Journal Citation Reports](#)

Other Information

IDS Number: 296AY

Cited References in Web of Science Core Collection: **48**

Times Cited in Web of Science Core Collection: **33**