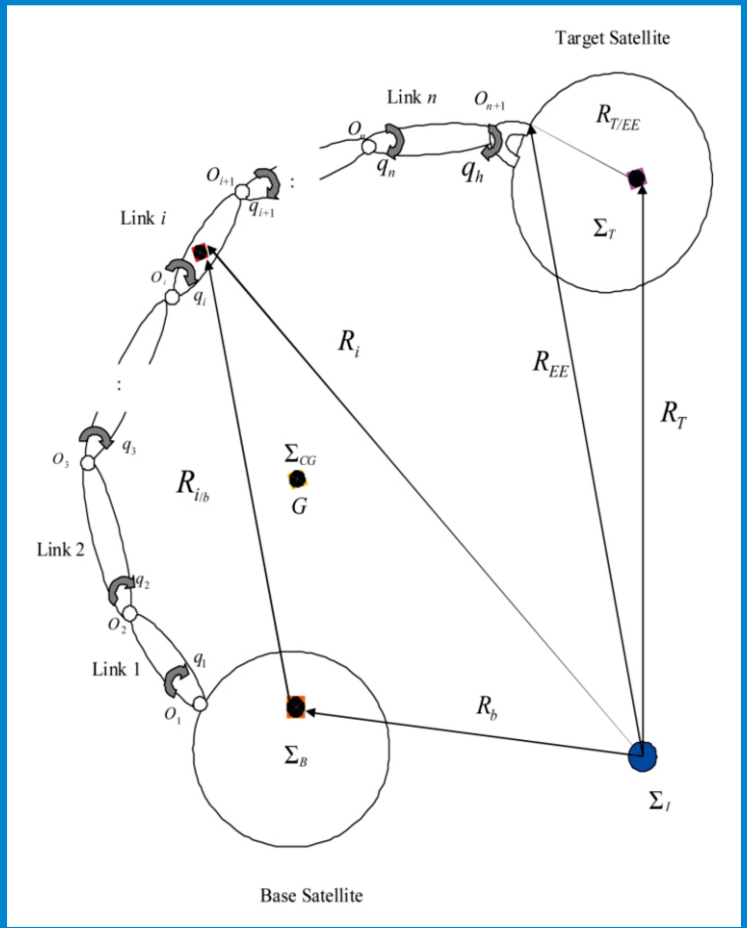
ISSN: 2153-0653 Volume 2, Number 4, November 2011

Scientific Research

Intelligent Control and Automation



ISSN: 2153-0653

www.scirp.org/journal/ica

Journal Editorial Board

ISSN Print: 2153-0653 ISSN Online: 2153-0661
http://www.scirp.org/journal/ica

Editor-in-Chief

Prof. Theodore B. Trafalis University of Oklahoma, USA

Editorial Board

Prof. Celal Batur University of Akron, USA
Dr. Mohammed Chadli University of Picardie Jules Verne, France
Prof. Pablo Cortés University of Seville, Spain
Prof. Zoran Gajic Rutgers University, USA
Prof. Vic Grout Glyndwr University, UK
Prof. Rafael Martínez Guerra Centre for Research and Advanced Studies, Mexico
Prof. Yanxiang He Wuhan University, China
Prof. Ali Vahidian Kamyad University of Leeds, UK
Prof. Akihiko Kumagai California State University, USA
Prof. Chuandong Li Chongqing University, China
Prof. Guay Martin Queen's University, Canada
Prof. Amalendu Mukherjee Indian institute of Technology, India
Dr. Chang-Woo Park Korea Electronics Technology Institute, Korea (South)
Prof. Dilip Kumar Pratihar Indian Institute of Technology, India
Dr. José Reinaldo Silva University of São Paulo, Brazil
Prof. Dan Wang Dalian Maritime University, China
Dr. Jue Wang Chinese Academy of Sciences, China
Dr. Rong-Long Wang University of Fukui, Japan
Dr. Wai-Keung Wong Hong Kong Polytechnic University, Hong Kong (China)
Prof. Tiaojun Xiao Nanjing University, China
Prof. Vinod Yadava Motilal Nehru National Institute of Technology, India
Prof. Ruey-Fang Yu National United University, Chinese Taipei

Editorial Assistant

Tian Huang Scientific Research Publishing, USA Email: ica@scirp.org

Intelligent Control and Automation, **2011, 2, 267-455**
Published Online November 2011 in SciRes (http://www.SciRP.org/journal/ica/)

TABLE OF CONTENTS

Volume 2 Number 4 November 2011

A Novel Generalized Nonholonomy Criteria and Physical Interpretation of Holonomic/Nonholonomic Constraints of a Free-Flying Space Robot with/without Interaction with a Flying Target Satellite

M. Shibli, S. Anwar……267

Prediction of Future Configurations of a Moving Target in a Time-Varying Environment Using an Autoregressive Model

A. Elnagar……284

Using the Prony Analysis for Assessing Servo Drive Control

R. Neugebauer, R. Schönherr, H. Schlegel……293

An Adaptive Fuzzy Sliding Mode Control Scheme for Robotic Systems

A. B. Sharkawy, S. A. Salman……299

Controllability of Strongly and Weakly Dependent Siphons under Disturbanceless Control

D. Y. Chao, K.-C. Wu, J.-T. Chen, M. Y. J. Lee……310

Reduce Torque Ripple of IM by Approach Method DTC

L. El M'Barki, M. Ayadi, R. Neji……320

Ethernet Control AC Motor via PLC Using LabVIEW

N. N. Barsoum, P. R. Chin……330

Robust MPC Method for BMI Based Wheelchair

T. Kawabe……340

Improved NCTF Control Method for a Two-Mass Rotary Positioning Systems

M. F. M. Yakub, B. A. Aminudin……351

An Adaptive Fuzzy Controller for Trajectory Tracking of Robot Manipulator

A. A. Khalate, G. Leena, G. Ray……364

i_d-i_q Control Strategy for Mitigation of Current Harmonics with Fuzzy Logic Controller Using Matlab/Simulation and RTDS Hardware

S. Mikkili, A. K. Panda……371

Dynamic Neural Network Based Nonlinear Control of a Distillation Column

F. Li……383

Copyright © 2011 SciRes.

Intelligent Control and Automation, **2011, 2, 267-455**
Published Online November 2011 in SciRes (http://www.SciRP.org/journal/ica/)

A Novel Adaptive Neural Network Compensator as Applied to Position Control of a Pneumatic System

B. Dehghan, S. Taghizadeh, B. Surgenor, M. Abu-Mallouh……388

Adaptive Tracking Control of an Uncertain Nonholonomic Robot

N. Hu, C. L. Wang……396

Intelligent Tool Management Strategies for Automated Manufacturing Systems

D. G. Rao, C. Patvardhan, R. Singh……405

The Design and Construction of an Intelligent Taxi Electronic Payment System Solution

M. Sadeghian, S. Dadjou, M. Meghdadi, L. Safari, S. Sadeghian……413

Dynamic Pricing Model for the Operation of Closed-Loop Supply Chain System

J. W. Xu, Y. L. Zhu……418

The Design and Management of Intelligent Systems in Mechanical Domestic Water Meters

M. Meghdadi, S. Ghasemi……424

Particle Swarm Optimization Algorithm vs Genetic Algorithm to Develop Integrated Scheme for Obtaining Optimal Mechanical Structure and Adaptive Controller of a Robot

R. Rajendra, D. K. Pratihar……430

Blank Holder Force Control System Driven by Servo-Motor

S. J. Qin, L. Yang, B. Yang……450

The figure on the front cover is from the article published in Intelligent Control and Automation, 2011, Vol. 2, No. 4, pp. 267-283 by Murad Shibli and Sohail Anwar.

Copyright © 2011 SciRes.

Intelligent Control and Automation (ICA)

Journal Information

SUBSCRIPTIONS

The *Intelligent Control and Automation* (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: $39 per issue.
To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements
Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)
Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.
E-mail: sub@scirp.org

COPYRIGHT

Copyright©2011 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

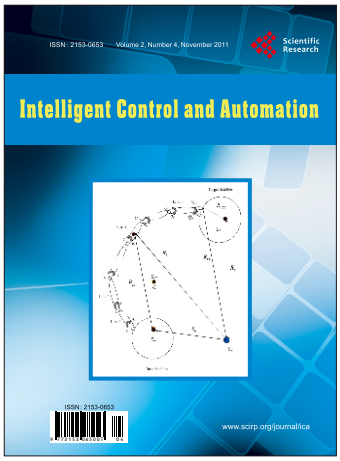
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assumes no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:
E-mail: ica@scirp.org

Call for Papers



Intelligent Control and Automation (ICA)

ISSN Print: 2153-0653, ISSN Online: 2153-0661
http://www.scirp.org/journal/ica

Intelligent Control and Automation is an open access, peer-reviewed and fully refereed journal focusing on theories, methods and applications in intelligent control and automation. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of intelligent control and automation.

Editor-in-Chief

Prof. Theodore B. Trafalis University of Oklahoma, USA

Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

- Adaptive Controls
- Advanced Control Algorithms and Applications
- Artificial Intelligence and Knowledge Engineering
- Automation System
- Autonomous Systems
- Complex Systems and Intelligent Robots
- Complex Systems, Logistics, and Supply Chain
- Computational Intelligence and Applications
- Control Theory and Control Engineering
- Cooperative Controls (Agent Based Systems)
- Distributed Parameter Systems
- Dynamic Data Driven Application Systems in Intelligent Control
- Ecosystems and Control
- Electronic Commerce and Office Automation
- Hybrid Systems
- Industrial Automation and Online Monitoring
- Integrated and Complex Automation Systems
- Intelligent Automation and Manufacturing
- Intelligent Control Theory and Applications
- Intelligent Management and Decision Making
- Mechanical Engineering and Automation
- Modeling, Identification, and Fault Diagnosis
- Navigation Control Theory and Applications
- Network Intelligence and Network Control
- Optimization
- Power Systems and Automation
- Robotics, Service and Medical Robotics
- Soft Computings
- Systems and Control Theory and Applications
- Systems Engineering and Engineering Optimization
- Water and Natural Resource Management

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the ***ICA***.

Notes for Intending Authors

Submitted papers should not be previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers will be peer reviewed. For more derails about the submission, please access the website.

Website and E-Mail

http://www.scirp.org/journal/ica **E-mail: ica@scirp.org**