10th International Conference on Integrated Modeling and Analysis in Applied Control and Automation (IMAACA 2017)

Held at the International Multidisciplinary Modeling and Simulation Multiconference (I3M 2017)

Barcelona, Spain 18 – 20 September 2017

Editors:

Agostino Bruzzone Genevieve Dauphin-Tanguy Sergio Junco

ISBN: 978-1-5108-4768-2

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by CAL-TEK S.r.l. All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact CAL-TEK S.r.l. at the address below.

CAL-TEK S.r.l. Via Umberto Nobile 80 87036 Rende (CS) Italy

Phone: +39 333 7042 612 Fax: +39 0984 937849

info@cal-tek.eu

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

INDEX

Unknown input observer for MIMO systems with stability J. A. Gonzalez, C. Sueur	1
A new approach to the derivation of a single set of implicit state space equations from a fixed causality bond graph of a hybrid model W. Borutzky	9
Development of a rules-based fuzzy algorithm for deviation of obstacles L. A. Dias, R. W. de Oliveira Silva, P. C. da Silva Emanuel, A. Ferrus Filho, R. Teixeira Bento	17
Well-formed Petri Net based patterns for modeling logic controllers for autonomous trains Y. Xie, M. Khlif-Bouassida, A.Toguyéni	25
Anti-Wind-Up solution for a two degrees of freedom controller L. Gava, A. Zanini	35
Optimum fuel consumption strategy for series-parallel hybrid electric vehicles: modelling and approaches I. M. Trindade, A. de Toledo Fleury	44
PHM oriented behavior modeling for PEM fuel cell systems via delayed feedback reservoir computing model Z. Li, R. Outbib	55
A novel port-Hamiltonian based design of stabilizing controller for DC-DC buck converter J. Tomassini, A. Donaire, S. Junco	61
Optimal sizing of a hybrid cooling system F. Kojok, R. Outbib, O. Ibrahim, R. Younes, F. Fardoun	69
Bond graph model conditioning for analysis, simulation and control system design: application to a planar mobile robotic manipulator M. Nacusse, M. Crespo, S. Junco, V. Rayankula, P. Mani Pathak	76
Author's Index	85