

CONTENTS

Artur Babiarz, Jerzy Klamka, Michał Niezabitowski Schauder's fixed-point theorem in approximate controllability problems	263
Tadeusz Kaczorek Reduced-order fractional descriptor observers for a class of fractional descriptor continuous-time nonlinear systems	277
Lan Zhou, Jinhua She, Chaoyi Li, Changzhong Pan Robust aperiodic-disturbance rejection in an uncertain modified repetitive-control system	285
Martin Klaučo, Slavomír Blažek, Michal Kvasnica An optimal path planning problem for heterogeneous multi-vehicle systems	297
Rodolfo García-Rodríguez, Victor Segovia-Palacios, Vicente Parra-Vega, Marco Villalva-Lucio Dynamic optimal grasping of a circular object with gravity using robotic soft-fingertips	309
Adam Owczarkowski, Dariusz Horla Robust LQR and LQI control with actuator failure of a 2DOF unmanned bicycle robot stabilized by an inertial wheel	325
Belem Saldivar, Sabine Mondié, Juan Carlos Ávila Vilchis The control of drilling vibrations: A coupled PDE-ODE modeling approach	335
Roman Dębski An adaptive multi-spline refinement algorithm in simulation based sailboat trajectory optimization using onboard multi-core computer systems	351
Alexander Dudin, Moon Ho Lee, Sergey Dudin Optimization of the service strategy in a queueing system with energy harvesting and customers' impatience	367
Ivan Atencia A discrete-time queueing system with changes in the vacation times	379
Mario C. Lopez-Loces, Jędrzej Musiał, Johnatan E. Pecero, Hector J. Fraire-Huacuja, Jacek Blazewicz, Pascal Bouvry Exact and heuristic approaches to solve the Internet shopping optimization problem with delivery costs	391
Onesfole Kurama, Pasi Luukka, Mikael Collan An n-ary λ-averaging based similarity classifier	407
Thanh The Van, Thanh Manh Le Content-based image retrieval using a signature graph and a self-organizing map	423
Marek Tabezdki, Khalid Saeed, Adam Szczepański A modified K3M thinning algorithm	439
Francisco A. Pujol, Higinio Mora, José A. Girona-Selva A connectionist computational method for face recognition	451
Krzysztof Siwek, Stanisław Osowski Data mining methods for prediction of air pollution	467
Anna Kobusińska, Jerzy Brzeziński, Michał Boroń, Łukasz Inatlewski, Michał Jabczyński, Mateusz Maciejewski A branch hash function as a method of message synchronization in anonymous P2P conversations	479
Prem Kumar Singh, Cherukuri Aswani Kumar, Abdullah Gani A comprehensive survey on formal concept analysis, its research trends and applications	495