2016 IEEE First International Conference on Control, Measurement and Instrumentation (CMI 2016)

Kolkata, India
8-10 January 2016

IEEE Catalog Number: CFP16C90-POD
ISBN: 978-1-4799-8850-1

Copyright © 2016 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP16C90-POD
ISBN (Print-On-Demand): 978-1-4799-8850-1
ISBN (Online): 978-1-4799-1769-3

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
E-mail: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Paper ID	Paper Title	Page No.
1	Power Density & Thermal Limits of The Flyback SMPS	1-5
6	Optimal solutions of load frequency control problem using oppositional krill herd algorithm	6-10
12	Performance Comparison of Optimized Controller Tuning Technique for Voltage Stability	11-15
19	Estimation of Glucose and Insulin Concentration Using Nonlinear Gaussian Filters	16-20
21	Real-time Compression of Electrocardiogram Using Dynamic Bit Allocation Strategy	21-25
24	Economic Load Dispatch with Prohibited Zone and Ramp-rate Limit Constraints- A Comparative Study	26-30
25	Two-Stage Adaptive Sliding-mode Controller for Vehicle Yaw Stability Using Differential ABS	31-35
30	Design, Modeling and Software Implementation of a Current-Perturbed Maximum Power Point Tracking Control in a DC-DC Boost Converter for Grid-Connected Solar Photovoltaic Applications	36-41
31	Speed Control of A Grid Connected Doubly-Fed Induction Generator System for Maximum Power Point Tracking with Improved Input Power Factor Employing Matrix Converter as a Slip Power Exchanger	42-47
34	EV Charging Station Using Renewable Energy	48-52
39	Adaptive Coding and Modulation (ACM) Technique for Performance Enhancement of FSO Link	53-57
40	Fractal Spiral Capacitor for RF Applications	58-61
41	Application of the Tuned Kalman Filter in Speech Enhancement	62-66
42	Electrical impedance model of piezoelectric based sensor	67-71
43	Internal Model Based PI Controller Design for the Coupled Tank System: An Experimental study	72-76
44	Online Detection and Location Estimation of Earthquake Events Using Continuous Wavelet Transform	77-82
45	Machine vision system based monitoring approach for friction stir welding process	83-86
46	Real-Time Parameter Estimation for Arbitrary Aerial Manipulators	87-91
49	Second Order Sliding Mode Control for Quadrotor	92-96
50	Disturbing Load Identification in Distribution System Network	97-102
52	Parameters affecting the switching life in HPF self ballasted lamps	103-106
53	An experimental set-up for measuring thermodynamic response of low temperature phase change materials	107-109
56	An Extended Linear Quadratic Regulator and its Application for Control of Power System Dynamics	110-114
57	Recognition of Harmonic Sources in Distribution Network using Fractal Analysis	115-119
60	GA Optimized Fuzzy Controlled DPLL using Discrete Energy Separation Algorithm	120-124
61	State estimation by orthogonal hybrid (combination of SHF and RHTF) function	125-130
63	Diagnosis of Power System Failures Using Observer based Discrete Event System	131-135
64	Robust Load Frequency Control in Multi-Area Power System: An LMI Approach	136-140
69	Design of Chemo-GA for Engineering Design Optimization Problem	141-145
71	Beaglebone based Employee Details Verification System (EDVS)	146-150
73	Studies on PI/PID Controllers in the Proportional Integral Plane via Different Performance Indices	151-155
75	Quench Analysis, Detection & Protection of 5-Tesla Superconducting Solenoid Magnet using Numerical Methods	156-161
79	Switching of Selectivity from Sulfur Dioxide to Butane: the Role of V2O5 Concentration in Nanostructured SnO2 Sensors	162-166
80	Two-Mass Robot Hopping on an Elastic Foundation: Apex Height Control	167-171
83	Guaranteed performance PID controller for UAV pitch control	172-176
91	Sparse identification of Output Error models using l-1 regularized least square	177-181
92	Importance of Social Welfare Approach for the Analysis of Demand Response	182-185
93	Analysis of 6-DOF motion with PI controller in electrohydraulic Stewart platform	186-190
94	SCADA based system for Discriminating Faulty Bearing of Induction Motors used in Process Control Operations	191-195
96	Performance Analysis of Arc Welding Parameters using Self Organizing Maps and Probability Density Distributions	196-200
98	An Investigation on the Performance of an Oscillating Flat Plate Fin with Compliant Joint for Underwater Robotic Actuation	201-205
99	Automatic Generation Control using Optimally Tuned Tilt Integral Derivative Controller	206-210
100	A novel way to acquire foot contour measurements of remotely located patients having foot deformities	211-214
102	Performance study of Multiresolution PI controller for Third Order System	215-218
106	Comparative Analysis of Different Fractal Methods in Studying Post-ictal ECG signals of Epilepsy Patient	219-223
108	Level Control of Two Tank system by Fractional Order Integral State Feedback Controller Tuned by PSO with Experimental Validation	224-228
112	Dissimilarity Factor Based Classification of Inferior Myocardial Infarction ECG	229-233
113	Badminton Shuttlecock Detection and Prediction of Trajectory using Multiple 2 Dimensional Scanners	234-238

116	Switched Capacitor Single-Slope Capacitance to Direct Digital Converter for Differential Capacitive Sensors	239-243
117	Novel Switched Capacitor Direct Digital Converters for Variable Reluctance Sensors	244-248
122	Identifying Cancer Biomarkers From Leukemia Data using Feature Selection and Supervised Learning	249-253
125	Biogeography Based PI Controller for Unified Power Quality Conditioner	254-258
126	A Low Cost Comparative and Qualitative Conditional Assessment of the Human Limb using Force Masking Technique with a Simple Strain Gauge Setup	259-263
127	Entropy-Based Wavelet De-noising for Partial Discharge Measurement Application	264-268
129	Measurement of Power Flow Variations in Gaussian Plane Using Phasor Measuring Unit	269-273
130	Application of Data Mining in Fault Diagnosis of Induction Motor	274-278
131	A novel fuzzy based signal analysis technique in electronic nose and electronic tongue for black tea quality analysis	279-283
132	Design of Predictive Sliding Mode Controller for Cascade Control System	284-289
133	Application of Close Loop Expert System for Heating Control of Rolling Mill Furnaces in a Steel Plant	290-294
134	Velocity Control of Omni Drive Robot using PID Controller and Dual Feedback.	295-299
135	Adaptive Force Tracking in Electrohydraulic System with First-Order Sliding Mode Control	300-304
137	Optimal PID controller design of an Inverted Pendulum Dynamics: A Hybrid Pole-Placement & Firefly Algorithm Approach	305-310
139	Condition Monitoring of Electrical Equipment using Thermal Image Processing	311-315
142	Designing Low-Chattering Sliding Mode Controller for an Electrohydraulic System	316-320
147	Mathematical Modeling and Fuzzy Logic Control of a Brushless DC Motor Employed in Automobile and Industrial Applications	321-325
148	Design and Tuning of Fractional Order PID Controller for Speed control of Permanent Magnet Brushless DC Motor	326-330
149	Fractional Order Speed Controller for Buck-Converter fed DC Motor	331-335
152	Emotion Recognition from Facial Image Analysis Using Composite Similarity Measure Aided Bidimensional Empirical Mode Decomposition	336-340
154	Implementation of a PID control PWM Module on Altera DE0 Nano Kit Using FPGA	341-345
155	Efficient estimation of system states of a poorly modeled 2-D target tracking system using evolutionary strategy based particle filter algorithm	346-350
156	Assessment of DC Servo Motor with Sliding Mode Control Approach	351-355
159	Analysis of singular systems via Taylor series using a recursive algorithm	356-360
162	Disturbance observer based optimal second order sliding mode controller for nonlinear systems with mismatched uncertainty	361-365
165	Characterization of bubbly flow through the fusion of multiple features extracted from high speed images	366-370
166	Impedance Estimation of a Pnuematic Muscle as a Mechanical Transmission and Actuation device	371-375
167	Inertial Delay Control based State Feedback Control for Active Suspension with Full Car Model	376-380
168	Analysis of Inter-turn Short Circuit Fault in 2.5HP 3-Phase Induction Motor	381-385
169	Adaptive Fault Tolerant Control For Active Suspension	386-390
170	Learning Object Manipulation from Demonstration through Vision for the 7-DOF Barrett WAM	391-396
171	Control of a 4 DoF Barrett WAM Robot - Modeling, Control Synthesis and Experimental Validation	397-402
172	Modelling and Performance Improvement of Phase-angle-based Conductivity Sensor	403-407
174	Adaptive fuzzy nonsingular fast terminal sliding mode control for spacecraft formation flying	408-413
175	Smart-phone as Measuring Device	414-418
177	Characterizing the Composite Noise of a Camera used as a Sensor for Position Estimation	419-423
178	Detection and Quantification of Arsenic in Water Using Electronic Tongue	424-428
179	Review of Sensor Technology for Mine Safety Monitoring Systems: A Holistic Approach	429-434
181	Prototype Development of an SPWM Inverter for PV Applications on dSPACE Platform	435-439
182	An FPGA-based Integrated Signal Conditioner for measurement of position, velocity and acceleration of a rotating shaft using an incremental encoder	440-444
184	Design and Manufacture of Bio-mimic Robotic Fish	445-448
186	Design of a PC based Real Time Mass Flow Indicator using AD590 as sensor	449-453
189	Radial basis function Neural Network for Prediction of Cardiac Arrhythmias based on Heart rate time series	454-458
190	A comparison of several nonlinear filters for ballistic missile tracking on re-entry	459-463
192	Occupancy Grid Map Generation using 360° Scanning Xtion Pro Live for Indoor Mobile Robot Navigation	464-468
193	Auto Target Detection of Humanoid and Auto Shooting Using Sniper: A Design Approach	469-473
194	A Three-Phase State Estimation in Unbalanced Distribution Networks with Switch Modelling	474-478
195	Design of Block Backstepping Based Nonlinear State Feedback Controller for Pendubot	479-483
196	A Real-Time Heart-Rate Monitor Using Non-Contact Electrocardiogram for Automotive Drivers	484-488
198	Ultrasonic Measurement and Detection of Pre-delamination damage in Composite under Tension-Torsion Loading	489-493

199	Evaluation of Video Magnification for Nonintrusive Heart Rate Measurement	494-498
201	Design of Binary Search ADC using N Comparators	499-502
205	Electrooculogram based Approach for Prevention of Dry Eye Condition in Computer Users	503-507
207	Reference Input Tracking of inversion-based Non-Minimum phase System using Adaptive Two-Degree-of-Freedom Control	508-513