2017 4th International Conference on Power, Control & Embedded Systems (ICPCES 2017)

Allahabad, India 9-11 March 2017



IEEE Catalog Number: ISBN:

CFP1709L-POD 978-1-5090-4427-6

Copyright \odot 2017 by the Institute of Electrical and Electronics 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 is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP1709L-POD

 ISBN (Print-On-Demand):
 978-1-5090-4427-6

 ISBN (Online):
 978-1-5090-4426-9

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





4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

8

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 1 Distributed Generation and its Network
Session Chair: Dr. Asim Datta, Mizoram University, Aizaawl, Mizoram,

Date: 09 March 2017 **Day:** Thursday **Time:** 04:45 PM-06:30 PM

Page	Paper ID	Author	Title
1	18	Srilakshmi. E, and S. P.	Effect of Distributed Generation on Secondary
1	10	Singh	Level Transmission System
5	61	Indrajit Koley, Partha Sarathee Bhowmik, and Asim Datta	Load Frequency Control in a Hybrid Thermal-Wind-Photovoltaic Power Generation System
10	115	Sarfaraz Nawaz, Ajay Kumar Bansal, Mahaveer Prasad Sharma, and Anjali Jain	A Novel Index and Hybrid Optimization Approach for Optimal Placement of Multiple DGs in Reconfigured Distribution Networks
16	116	Sarfaraz Nawaz, Anjali Jain, and Abhishek Gupta	A Novel Technique for Optimal Allocation of Capacitors in Radial Distribution System
21	122	Abhik Hazra, Saborni Das, Pallav Sarkar, Ashish Laddha, and Mousumi Basu	Optimal Allocation and Sizing of Multiple DG and Capacitor Banks considering Load Variations Using Water Cycle Algorithm



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 2 Controller Design Theory

Session Chair: Prof. H. N. Kar, MNNIT Allahabad

Date: 09 March 2017 **Day:** Thursday **Time:** 04:45 PM-06:30 PM

Page	Paper ID	Author	Title
27	59	Rimpi Devi, and Lillie Dewan	Comparative study of PID tuning methodologies for Industrial system and Haar wavelet based denoising
33	62	Rajiv Dey, Bharat Verma, Sachin K. Jain, and Prabin K. Padhy	Fast Adaptation Model Reference Adaptive Control
37	64	Sunil Kumar Singh, and Prabin Kumar Padhy	Design of PID Controller for Delayed Systems using Gain Margin and Phase Margin Criteria
43	87	Ankita Sharma, and Prabin Kumar Padhy	Design and implementation of PID controller for the decoupled two input two output control process
49	88	Ujjwal Manikya Nath, Chanchal Dey, and Rajani K. Mudi	Design of Modified Model-based Adaptive Control System for FOPDT Processes
54	108	Pooja Rani, and Haranath Kar	$l_2 - l_\infty$ Elimination of Overflow Oscillations in Interfered Digital Filters with Saturation Arithmetic
58	127	Reshma Sengupta, Ujjwal Manikya Nath, and Chanchal Dey	Design and Performance Analysis of a Modified MRAC for Second-order Processes



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

8

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

Session: S 3 VLSI-I

Session Chair: Dr. Manish Goswami, IIIT Allahabad

Date: 09 March 2017 **Day:** Thursday **Time:** 04:45 PM-06:30 PM

Page	Paper ID	Author	Title
63	28	Nagamani A. N., Sharath Kumar S., and Vinod Kumar Agrawal	Design of Garbage Free Reversible Multiplier for Low Power Applications
67	95	Rupesh Shukla, and Santosh Kumar Gupta	Leakage Reduction in Ultra Deep Sub Micron Technology
73	112	Monika Yadav, Abhinav Gupta, and Sanjeev Rai	A Study and Comparative Analysis of Low Power Hybrid-CMOS 1-bit Full Adders in Deep- submicron Technology
80	114	Mitashra Gupta, and Ashutosh Nandi	Impact of Matched High-K Gate Dielectric based DG-MOSFET on SRAM performance
85	129	Pavankumar Bikki, and P. Karuppanan	Analysis of Low power Feedthrough Logic with Leakage Control Technique



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

ጲ

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 4 Image Processing and Soft Computing Applications

Session Chair: Dr. Shekhar Verma, IIIT Allahabad

Date: 10 March 2017 **Day:** Friday **Time:** 04:00 PM-05:30 PM

Page	Paper ID	Author	Title
91	16	Sahul M.P.V, Ankit Agarwal, Somasundaram. S, Gaurav Upadhyay, Thenmozhi Selvi.K, Sura P. S, and Subramanya Udupa	Architecture of Cost-effective, Advanced, High Data Rate Baseband Data Handling System and realization for High Resolution Remote Sensing Satellites
N/A	27	Gaurav Kataria, and Kailash Singh	RNN Based Soft Sensor for Estimation of Concentration for a Reactive Distillation Column
97	37	Suraj, Rakesh Kumar Sinha, and Subhojit Ghosh	Adaptive NFC for Classification of Two Class Motor Imagery Task
103	50	Naik Daksha, and Kelkar Rudraksha	Design and Testing of Self-tuned Fuzzy PI Controller for Improved Speed Control and Accelerating Torque Characteristics of a DC motor
109	100	Divya Srivastava, Surbhi Goel, and Suneeta Agarwal	Pipelined Technique for Image Retrieval Using Texture and Color
115	120	Manish Gupta, Shambhu Shankar Bharti, and Suneeta Agarwal	Implicit Language Identification System based on Random Forest and Support Vector Machine for Speech



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 5 Power Systems Dynamics and Protection

Session Chair: Dr. S. R. Mohanty, MNNIT Allahabad

Date: 11 March 2017 **Day:** Saturday **Time:** 09:30 AM-11:00 AM

Page	Paper ID	Author	Title
121	8	Om Hari Gupta, and Manoj Tripathy	EC-Based Relaying Scheme for the Protection of Shunt-Compensated Transmission Line
127	11	Bhanu Pratap Soni, Akash Saxena, and Vikas Gupta	Online Identification of Coherent Generators in Power System by using SVM
132	32	Amulya, Mayur Patil, S. R. Bhide, and S. S. Bhat	Experimenting with IEC 61850 and GOOSE messaging
138	75	Ekta Purwar, D. N. Vishwakarma, and S. P. Singh	Planning A Comprehensive Protection Scheme Considering Distributed Generation
144	118	R. R. Ambekar, and H. A. Mangalvedekar	Power System State Estimation by Linear programming Under False Data Injection Attack
150	123	Subhendu Sekhar Sahoo, Anirban Mishra, Kalyan Chatterjee, and Chandan Kumar Sharma	Enhanced Fault Ride – Through Ability of DFIG- Based Wind Energy System Using Superconducting Fault Current Limiter



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

&

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 6 Power Components and its Control

Session Chair: Dr. Zakir H. Rather, IIT Bombay

Date: 11 March 2017 **Day:** Saturday **Time:** 11:30 AM-01:00 PM

Page	Paper ID	Author	Title
155	25	Sunil Kumar Mishra, and Aradhna Patel	Wells Turbine Modeling and PI Control Scheme for OWC Plant using Xilinx System Generator
161	70	Preeti Sonkar, and O. P. Rahi	Investigation on DFIG based wind turbine for short term frequency regulation techniques
167	124	Nitai Pal, Ashiwani Yadav, Shweta Rani, and Jagannath Patra	Voltage Profile Improvement in Off Grid Wind Turbine System using MGVC and Diesel Generator
172	125	Sonam Shrivastava, Bidyadhar Subudhi, and Susmita Das	Voltage and Frequency Synchronization of a Low Voltage Inverter based Microgrid
178	131	Kanika Chitnavis, and N. R. Bhasme	Review of Critical Analysis for Life Estimation of Power Transformer



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

8

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 7 VLSI Technology-II
Session Chair: Dr. Lokendra Kumar, Allahabad University

Date: 11 March 2017 **Day:** Saturday **Time:** 11:30 AM-01:00 PM

Page	Paper ID	Author	Title
184	19	Shanu Kumar, Vijaya Bhadauria and Tanmay Dubey	LVLP High Gm Bulk-driven Folded Cascode OTA using Current Shunt Auxiliary Pair
189	44	Amrish Kumar, Abhinav Gupta, and Sanjeev Rai	Charge Plasma Based Graded Channel With Dual Material Double Gate JLT For Enhance Analog/RF Performance
195	45	Anjali Priya, Sanjeev Rai, and Ram Awadh Mishra	Comparative Analysis of Junctionless Bulk and SOI/SON FinFET
199	46	Rachana Chauhan, Abhinav, Amrish Kumar, and Sanjeev Rai	A Comparative study of Junctionless dual material double gate Silicon on Insulator (SOI) and Silicon on Nothing (SON) MOSFET
205	47	Abhinav Gupta, Neha Maurya, and Sanjeev Rai	Impact of dielectric pocket on analog/RF performance of short channel double gate MOSFET



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

8

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 8 Controller for Engineering Applications

Session Chair: Prof. Shubhi Purwar, MNNIT Allahabad

Date: 11 March 2017 **Day:** Saturday **Time:** 11:30 AM-01:00 PM

Page	Paper ID	Author	Title
211	60	Tamen Thapa Sarkar, and Lillie Dewan	Application of LQR and MRAC for swing up control of Inverted Pendulum
217	74	Varun Dourla, Sandeep Pandey, and Anjali S. Junghare	Design and Analysis of Dynamic Sliding Mode Control for Magnetic Levitation System
223	110	Arvind Katyayn, and Praveen Kumar Agarwal	Type-2 Fuzzy Logic Controller for Conical AMB- Rotor system
229	111	Avadh Pati,Vipin Chandra Pal, and Vijay Kumar Verma	Model Reference based Adaptive Sliding Mode Control of Magnetic Levitation System
235	113	Yograj Sharma, and Jyoti Ohri	LabVIEW based Linear Quadratic Regulator and Model Predictive Controller for DC Motor and Flexible Link Manipulator
242	121	Sai Sandeep Damera, Bhavana Rana, and Amit Dhurwey	U-model based design procedure for non-linear control systems: A generic approach



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT, GOI, 2007)

ጼ

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

Session: S 9 Instrumentation & its Network for Monitoring

Session Chair: Prof. V. K. Srivastava, MNNIT Allahabad

Date: 11 March 2017 **Day:** Saturday **Time:** 02:00 PM-03:30 PM

Page	Paper ID	Author	Title
248	42	Vipin Prakash Yadav, Alakh Sinha, and Arun Khosla	Design and Implementation of Ultrasonic Anemometer
254	73	Baiju Payyappilly, and Sankaran M	Design framework of a Configurable Electrical Power System for Lunar Rover
260	79	Jyoti Kashniyal, Shekhar Verma, and Krishna Pratap Singh	Performance Analysis of Localization Methods for Wireless Sensor Networks
266	106	Tarique Rashid, Sunil Kumar, and Arvind Kumar	Effect of Body Node Coordinator (BNC) Positions on the Performance of Intra-Body Sensor Network (Intra-WBSN)



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

8

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

Session: S 10 Power Electronics & Drive Applications

Session Chair: Dr. Rajesh Gupta, MNNIT Allahabad

Date: 11 March 2017 **Day:** Saturday **Time:** 02:00 PM-03:30 PM

Page	Paper ID	Author	Title
		Umesh Kumar Soni,	Two Phase Bipolar and Two Phase Split
272	34	and Ramesh Kumar	Unipolar Operation of PMSM with
		Tripathi	Multiconfiguration Stator Using LABVIEW
		Sourabh Kundu, Santu	Performance Analysis of Three-Phase Five-
278	49	Kumar Giri, Sarbani	Level NPC Inverter by Using Triangular and
278	49	Mukherjee, and Subrata	Trapezoidal Triangular Carrier-based
		Banerjee	Modulation Techniques
	56	A. Kumar,D.	Harmonic Mitigation of Cascaded Multilevel
284		Chatterjee, and A.	Inverter with Non Equal DC Sources Using
		Dasgupta	Hybrid Newton Raphson Method
289	133	G. Indira Kishore, Maloth Naresh and Ramesh Kumar Tripathi	Modified Multiplier SEPIC Converter for High Voltage DC Applications
295	134	G Indira Kishore, and Ramesh Kumar Tripathi	A Novel High Voltage Gain Single-Phase AC-DC PFC Converter using Switched-Capacitor



4th International Conference on Power, Control & Embedded Systems

9-11 March, 2017.

ORGANIZED BY

Motilal Nehru National Institute of Technology AllahabadAllahabad-211004 (India)
(AN INSTITUTE OF NATIONAL IMPORTANCE AS DECLEARED BY NIT ACT,GOI, 2007)

8

co-sponsored by the IEEE Uttar Pradesh section and IEEE Joint Society Chapter of IE/PE/CS, MNNIT Allahabad

Technical Paper Presentation Schedule

CORRESPONDENCE: icpces@gmail.com

Session: S 11 Power Electronics in Power Systems Applications

Session Chair: Dr. Manoj Tripathy, IIT Roorkee

Date: 11 March 2017 **Day:** Saturday **Time:** 02:00 PM-03:30 PM

Page	Paper ID	Author	Title
301	40	Brij Sunder Joshi, Om Prakash Mahela, and Sheesh Ram Ola	Implementation of Thyristor Controlled Series Capacitor in Transmission System to Improve the Performance of Power System Network
307	54	Sakshi Mishra, Subhojit Ghosh, Arup Goswami	A Genetic Algorithm Tuned Kalman Filter for Estimating Harmonic and Inter-Harmonic Attributes
311	85	Tripurari Das Gupta, Deepak Kumar, and Kalpana Chaudhary	Modelling and Analysis of Grid-tied Fuel Cell System with Synchronous Reference Frame Control
317	94	Saurabh Kumar, Rajat Kumar, and Navdeep Singh	Performance of Closed Loop SEPIC Converter with DC-DC Converter for Solar Energy System
323	96	Rajat Kumar, Saurabh Kumar, Navdeep Singh, and Vineeta Agrawal	SEPIC Converter with 3-Level NPC Multi-Level Inverter for Wind Energy System (WES)
329	102	Anju Bala, Geeta Thakur, and Lini Mathew	Design and Implementation of Three Phase Three Level Inverter Based DSTATCOM
334	132	Rajnish Bhasker, and Vineeta Agarwal	Modeling of Modular Multilevel Converter for Grid Application