# **2015 International Conference** on Energy Economics and Environment

(ICEEE 2015)

Greater Noida, India 27-28 March 2015



**IEEE Catalog Number: CFP15B28-POD ISBN**:

978-1-4673-7493-4

## March 27, 2015 (Friday)

#### 1. Technical Session-I: Control of Modern Converters

	1	011	Duty Ratio Control Schemes of DC-DC Boost Converter Integrated with Solar PV System 1	Pravesh Kumar, Rupendra Kumar Pachauri and Yogesh K. Chauhan
TIMING:	2	225	Modeling, Simulation and Implementation of Matrix Converter 7	Anubhav Agrawal, P. Agarwal and Sharmili Das
02:15- 03:45	3	248	Active Damping Control with a Feed Forward Loop for Single- Phase UPS Inverter System : A Comparative Study 12	Santosh Kumar Singh and S.Ghatak Choudhuri
VENUE: Block C - 104 (Seminar Hall)	4	017	Harmonic Mitigation Using Multipulse Voltage Source Converter-Based Hvdc System 17	Ruchi Agarwal and Sanjeev Singh

## **2.** Technical Session –II: Optimal Power Flow

	1	247	Optimization of Economic Load Dispatch Problems using	Jitendra Singh and Sunil Kumar
TIMING:	IMING:		Biogeography Based Optimization Technique 22	Goyal
02:15 –	2	119	One Hour Ahead Load Forecast of PJM Electricity Market &	Kishan Sahay and Vishesh
03:45		119	UPPCL 27	Rana
	3			
VENUE:				
BLOCK C		235	Optimal fuel control of series-parallel input split hybrid electric	Aishwarya Panday and Hari Om
- 101		233	vehicle using genetic algorithm based control strategy 33	Bansal
(CLASS				
ROOM)				

#### 3. Super Session-I: Super Session-I: Power Quality Monitoring & Detection

TIMING: 02:15-	1	073	Detection of Power Quality Events Associated with Grid Integration of 100kW Solar PV Plant 38	Om Prakash Mahela and Abdul Gafoor Shaik
03:45 VENUE:	2	273	Signal Processing and Al Based Diagonasis of Power Quality Disturbances: A Review 44	Padmanabh Thakur and Asheesh K Singh
Yellow Building	3	272	Aging Leader and Challenger based PSO for Harmonic Mitigation using SAPF 50	Pradeep Kumar, Asheesh K. Singh and Rambir Singh
(Seminar Hall)	4	271	Self-Tuned Approximated Simplest Fuzzy Logic Controller based Shunt Active Power Filter 56	Rambir Singh, A. K. Singh and Pradeep Kumar

#### 4. Super-Session-II: Super-Session-II: Load Frequency Control

TIMING: 04:00-	1	030	Multiarea automatic generation control using model predictive based control in deregulated environment 62	Nagendra Kumar, Dr. Barjeev Tyagi and Dr. Vishal Kumar
05:30 VENUE: Yellow	2	051	Impact of Sub-'Hourly Bidding in Power Exchanges in India 68	S S Barpanda. S C Saxena, Kaushik Dey and K V N Pawan Kumar
Building (Seminar Hall)	3	209	Multiarea automatic generation control using BBBC tuned several classical controllers in deregulated environment 73	Nagendra Kumar, Dr. Barjeev Tyagi and Dr. Vishal Kumar

# **5.** Technical Session III: PV Technologies and Modeling

	1	253	Comparative Analysis of Four Different Solar Photovoltaic Technologies 79	Nitin Kumar, S.S Chandel and Priya Yadav
TIMING: 04:00- 05:30	2	057	Optimization of Tilt Angle for installation of Solar Photovoltaic system for six sites in India 85	Amit Yadav and Hasmat Malik
VENUE:	3	074	Five parameter modelling and simulation of solar PV cell 89	Adil Sarwar and Mashhood Hasan
Block C – 101 (Classroom	4	265	Effect of Water Flow on PV Module: A Case Study 94	G.N. Tiwari, Sumit Tiwari, V. K. Dwivedi, Sanjeev Sharma and Vineet Tiwari
)	5	092	A theoretical study on solar thermionic (thermo electronic) power conversion with a parabolic concentrator 101	Dilip De and Olukunle Olawole
	6	091	A brief review of solar concentrators 108	Dilip De and Olukunle Olawole

## **6.** Technical Session IV: Monitoring of Power Systems

TIMING:	1	112	Intelligent health monitoring system of three phase induction motor using infrared thermal image 115	D.K. Chaturvedi, Md.Sharif Iqbal and Mayans Pratap Singh
04:00 – 05:30	2	059	A Low-Complexity Parametric Modeling Technique for Insulator Leakage Current Based on Synchronous Detection 121	Riddhi Ghosh, Biswendu Chatterjee, Debangshu Dey and Sivaji Chakravorti
VENUE: BLOCK C – 104 (Seminar	3	045	An Advanced Technique for Frequency Domain Spectroscopy of Oil-paper Insulation at Reduced Time using Triangular Excitation 125	Pradhan, Biswendu Chatterjee and Sivaji Chakravorti
Hall)	4	274	Short-Term Load / Price Forecasting in Deregulated Electric Environment using ELMAN Neural Network 129	Navneet Kumar Singh, Asheesh Kumar Singh, and Manoj Tripathy

# March 28, 2015 (Saturday)

#### 7. Technical Session V: PV System Controls

TIMING: 11:30 –	1	223	Modeling and Control of DC/DC Boost Converter using K- Factor Control for MPPT of Solar PV System 135	Adithya Vangari, Divyanagalakshmi Haribabu and Jayachandra N. Sakamuri
01:00	2	012	Analysis and Performance Improvement of Solar PV System by Solar Irradiation Tracking 141	Akhilesh Kumar, R. K. Pachauri, Yogesh K. Chauhan
VENUE: BLOCK C -	3	100	A Review of Different DC/DC Converters for Power Quality Improvement in LED Lighting Load 147	Amit Agrawal, K. C. Jana, Ashish Shrivastava
104 (Seminar Hall)	4	087	Optimizing PV System Performance Considering the Impacts of Non-Uniform Irradiance and Partial Shading 153	Majid Jamil and Md Ehtesham
	5	113	Maximum Power Point Tracking Issues in Control of a Low Power Photovoltaic (PV) Module 159	L Navinkumar Rao and S Gairola

#### **8.** Technical Session VI: Electronic Systems

	1	034	Energy Efficient Self Organising Load Balanced	Pawan Mehra, M N Doja and
TIMING: 11:30 – 01:00	2	056	Clustering Scheme for Heterogeneous WSN 165  Modeling of a Piezoelectric Transducer for Application in Space Charge Detection using Pressure Wave Propagation	Bashir Alam  Nasirul Haque, Biswendu  Chatterjee and Sivaji Chakravorti
VENUE: Yellow	3	130	Method 171  Comparison of Low Complexity Transforms For Multi Carrier	Mayank Sharma, Rohit Jain and
Building	4	264	Schemes N/A Effect of FSS Structure on Planar Patch Antenna 176	Prashant Mohan Trivedi Rahul Mishra and Amit Rai
(Seminar Hall)	5	050	Performance Analysis of H.264 Video Decoder: Algorithm and Applications 183	Imranullah Khan, Mohammad Ahmad Ansari, Archana Yadav and Syed Hasan Saeed

# **9.** Super Session-III: Micro Grid and Distributed Generations

(Chair: Dr JG Singh, AIT Bangkok, Co-chair: Naqui Anwar, GCET, Gr Noida)

TIMING: 11:30- 01:00	1	068	Optimal Allocation and Sizing of Distributed Generators in Autonomous Microgrids based on LSF and PSO 189	Anand M.P, Weerakorn Ongsakul, Jai Govind Singh Singh and Sudhesh K.M
VENUE: BLOCK - D AUDITORIUM	2	075	Implementation of Electronic Load Controller for Control of Micro Hydro Power Plant 195	Shailendra Rai, O.P. Rahi and Rahul Srivastava

## **10.** Technical Session VII: Stability Analysis

TIMING:	1	213	Analysis of Power Flow and Continuous Flow of IEEE-14 Bus Integrated Wind Farm Fault Using PSAT 201	Satish Kumar, Ashwani Kumar and N K Sharma
02:00 – 03:15 VENUE:	2	025	Comparative Study of Optimization Algorithms for Enhancement of Small Signal Stability by Designing PSS for Multi-machine Power System 207	Vivek Prakash, Bhanu Pratap Soni, Akash Saxena and Dr. Vikas Gupta
BLOCK C – 104 (Seminar Hall)	3	275	Risk-based DC Security Assessment for Future DC-Independent System Operator 213	F. Gonzalez-Longatt and C. Carmona-Delgado, J. L Rueda

# 11. Technical Session VIII: Electricity Market

	1	121	One Hour Ahead Price Forcast of Ontario Electricity Market by ANN 221	Kishan Sahay
	2	251	Modified Transmission Pricing Methodology with impact of Carbon Emission 227	Kaustubh Dwivedi, Yogendra Kumar and Shilpi Sisodia
TIMING: 02:00 – 03:15	3	238	Real and Reactive Power Price of Generators to Load in Pool Based Electricity Market Model 233	Rajendar Kumar and Ashwani Kumar
VENUE: BLOCK - D (Auditorium)	4	067	Impact of Economic Dispatch in a Smart Distribution Network considering Demand response and Power market 241	Anand M.P, Weerakorn Ongsakul, Jai Govind Singh and Sudhesh K.M
	5	280	A Review of Multi Agent Based Decentralised Energy Management Issues 247	Frances Brazier , Han La Poutre, A.R. Abhyankar, Kritika Saxena, S.N. Singh, K.K. Tomar

# **12.** Technical Session IX: Green Energy Utilization

	1	215	Utilization Of Wind Energy From Railways Using Vertical Axis	Ankit Srivastava, Arun Singh,
TIMING:		213	Wind Turbine 252	Garvit Joshi and Arpan Gupta
02:00 - 03:15	2			Pritish Pani, Abhishek R Athreya,
		236	Integration of the Vehicle-to-Grid Technology 257	Aishwarya Panday, H.P Agrawal
VENUE:				and Hari Om Bansal
Yellow	3	277	Comparison of GDC electrolyte-LSCF cathode IT-SOFC system	D. S. Gyan, R. Gupta and P.K. Roy
Building			with conventional power sources 262	B. C. Cyan, It. Capia and I it. Itoy
Block – A	4	054	Analysis of battery-super capacitor based storage for	Chetan Upadhyay, Hina
Seminar Hall		034	electrical vehicle 268	Chandwani and Sarang Soni
	5	062	Techno-Economic analysis of Grid connected PV-Biomass	Ravi Kumar, Dr.Nitai Pal and
		002	based hybrid System with Feed-in Tariffs for ISM, Dhanbad. 275	Ramendra Kumar

## **13.** Super Session IV: Environmental Issues and Challenges

TIMING: 03:30 – 04:30	1	208	Emission discounting method for mitigation of environmental issues 281	Patel A. R., Singh Harpreet, Sarkar Prabir, Tyagi Himanshu, Sagi Sudhakar
VENUE: Block D Auditorium	2	249	Analysis of parameters for Green Computing Approach using the Analytical Hierarchy Process 288	Rahul Baidya, Sadhan Kumar Ghosh and Biswajit Debnath

#### 14. Technical Session X: WAMS & Control

(Chair: Dr S N Singh, IIT Kanpur, Co-chair: Prof Prabhakar Tiwari, GCET Gr Noida)

TIMING: 03:30 – 04:30 VENUE: Block C – 104 Seminar Hall	1	207	Optimal PMU Placement for Complete Power System Observability using Binary Cat Swarm Optimization 292	Ankur Srivastava and Sydulu Maheswarapu
	2	101	Considering Weighted Least Square Techniques on Power System State Estimation 298	Pankaj Tripathi, Jinendra Rahul and Nim Anurag Radhamohan
	3	278	Significance of Saving One Unit of Electricity 303	Ambika pathy, Gajendra Singh and Prabhakar Tiwari

## **15.** Technical Session XI: Special Topics

	1	116	SISO Method using Improved Modified Pole Clustering and	Jay Singh, Cb Vishwakarma and
TIMING: 03:30 – 04:30		110	Genetic Algorithm 309	Kalyan Chatterjee
	2	240	Effect of Load inductance on Inter-turn Fault in Single phase	Sanket Parashar and Rakesh
			PMSG using Winding Function Theory 313	Srivastava
VENUE: Yellow Building Block A (Seminar Hall)	3	256	Design and Control of an Intelligent Electronic Throttle Control System 319	Anil Kumar Yadav, Prerna Gaur and Sandeep Tripathi