TECHNICAL SESSION DETAILS:

Technical Session 01:

Paper ID	Title
25	Universal Off-board Battery Charger for Light and Heavy Electric Vehicles
32	A Reconfigurable Dual Active Bridge Converter with Wide ZVS Range for Charging of Electric Vehicles
42	Comparative Analysis of Voltage Multiplier Cell Based Non-Isolated Step-Up Converters
43	Statistical Modeling of GaN Power Devices with ASM-GaN Model
54	Reduced Switching Loss Based Cell Capacitor Voltage Balancing Strategy for MMC
58	Analysis and Design of a Digital Average Current-mode Controlled Buck Converter

Technical Session 02:

Paper ID	Title
79	A Wide Range Soft Switched Interleaved Boost Integrated L-L Type Full-Bridge DC-DC Converter
87	Multi input Bidirectional Resonant Converter for Hybrid Energy Systems
98	Analysis of Canonical Switching Inverse Buck-Boost Converter Based Electric Vehicle Drive System
117	Analysis and Considerations for Deadbeat Predictive Current Control of Boost PFC Converter
121	Three-Port Fourth-Order Boost Converter for Renewable Energy Application
126	Six-Switch Inverter for Grid-Connected PV Application with Zero Leakage Current

Technical Session 03:

Paper ID	Title
47	Open-Phase Fault-Tolerant Direct Torque Control for Five-Phase Three-Level NPC VSI fed Induction Motor Drive.
53	Second Order Sliding Mode Observer Design for the Speed Estimation of DFIG
56	Design and Analysis of Brushless DC Motors for Ceiling Fan Application
69	State Reference Computation for PMSM Implemented with Single-Precision Floating Point Datatype
88	A Dual-Layer-Stator Doubly Salient Permanent Magnet Machine
99	Development of MPC for an Uncontrolled Prime Mover Driven SCIG based Distributed Generation System

Technical Session 04:

Paper ID	Title
7	A Grid Interactive Sensorless Synchronous Reluctance Motor Drive for Solar Powered Water Pump for Agriculture and Residential Applications
10	Application of Empirical Wavelet Transform for Analyzing Inter-turn Fault in FEM Based Closed Loop Speed Controlled Induction Motor
31	Testing of SiC Voltage Source Inverter fed Induction Motor Drive and its Control with Output Sinusoidal LC filter

Paper ID	Title
33	A Parameter Insensitive Rotor Angle Extraction Approach using Carrier Frequency Components by Phase Shifted Carrier PWM for PMSM Drives
44	Improved Traditional Demagnetization Control of DFIG Under Balanced Grid Faults
45	A Current Controlled MPPT with Sliding Mode Control to Improve the Performance of Two Stage Water Pumping System

Technical Session 05:

Paper ID	Title
191	Day Ahead Solar Irradiance Forecasting using Different Statistical Techniques
192	Constraints Based Design of DC side LC Filter for Single-Phase Voltage Source Converter
212	Coordinated Operation of Battery Energy Storage and VVC devices in High-PV Penetrated Distribution Network
238	Improved Operational Schemes for MSC-GCCI Architecture used in Large Solar PV Plants
241	Stability Analysis of Neuro-Adaptive SMC-Based Current Sharing Technique for Multiphase Converters in Battery Charging Applications
286	An Investigation into the Voltage Profile Pattern Variation in Distribution Networks with Increased PV Penetration

Technical Session 06:

Paper ID	Title
111	A Load Adaptive DPS Control for DAB with Reduced Current Stress for Wide Load and Voltage Range
157	Matrix Converter Based Three Phase Isolated EV Charger with Direct Power Control
216	Multi-resonant Control in a PV-SEPIC Fed PEV Charger with Distorted Grid Conditions
220	Analysis and Implementation of Inductor Based Active Battery Cell Balancing Topology
297	Study on Energy Storage System Applications, Allocation and Challenges
339	A Comparative Study of Optimal Battery Storage and Fuel Cell for a Clean Power System in Remote Area

Technical Session 07:

Paper ID	Title
142	Energy Management and Charging Portfolio Analysis for Future Battery Powered Harbor Vessels
144	A SINGLE-TERMINAL HYBRID SCHEME FOR SIX-PHASE TRANSMISSION LINE
204	Dynamic Phasor Based Anti-Islanding Detection with Zero Non Detection Zone
232	Industrial Smart Load Using Five-Level ANPC Converter with Sensorless Modulation Method
248	Flexible Distributed Power Converter with Harmonic Compensation and Seamless Passive Islanding Detection
308	A New Optimal Automation Strategy with Profit-based Optimization Model

Technical Session 08:

Paper ID	Title
136	High Voltage DC-DC Converter Topology based on Capacitive Coupling with Soft Switching Characteristics
138	Power FET Degradation Test based on Thermal Equilibrium during Mission-Profile Characterization
145	Comparative Study on Practical Implications of Digital Peak Current and Hysteresis Current Controllers for MHz Frequency DC–DC Converters
154	Improved High Voltage Gain Non-Isolated Switched Inductor Quasi Z-Source DC-DC Converter for Zero energy DC Homes Application
163	Higher Level Multi-level Inverter for Medium Voltage Drives with High DC-link Voltage Utilization
164	Fault Tolerant Grid Connected Single to Three-Phase Multilevel Converter for Induction Motor Drive

Technical Session 09:

Paper ID	Title
167	A Coupled Inductor Based Ćuk Microinverter for Grid Connected Photovoltaic Applications
170	State-feedback control of grid-connected RSDCHBMLI with LCL filter
175	High-Gain Non-Isolated Battery Integrated DC-DC Boost Converter for Electric Vehicle
177	Modified circuit for cascaded multilevel inverter with reduced number of switches
190	Characterization and Detection of Open Switch Faults for H-Bridge Inverter
205	13.56MHz High Power Half-Bridge GaN-HEMT Resonant Inverter Achieving 99% Power Efficiency

Technical Session 10:

Paper ID	Title
114	Effect of Inductor Placement on DC Bus Capacitor of Adjustable Speed Drives
159	Digital Implementation of Carrier Displaced Simplified Space Vector PWM for CMV Reduction
166	A Space Vector based Pulse Density Modulation Scheme with Reduced Computational Complexity
196	Enhanced Double Exponential Reaching Law based Sliding Mode Controller for Induction Motor Drives
199	Study of Frequency-dependent Parasitics' Effects on Resonance Frequencies of a Two-winding Medium/High-frequency Transformer
201	Aiding Effects of Interleaving to Improve Design Performances of a Line-frequency Zig-Zag Transformer Employed in a Unified AC-DC System

Technical Session 11:

Paper ID	Title
118	Stochastic analysis of islanded microgrid
149	Design and Control of Solar PV-Battery System Feeding AC Network with DG Set Backup
151	Light-Weight GPS Spoofing Detection for Synchrophasors in Smart Grids
153	Three-Phase Radial EMTP and Stealthy Attack Detector for Distribution System
158	Partial Start-up Scheme for ST to Reconnect to MV Grid from LV Side Islanded Operation
162	An Integrated Control of Enhanced-PLL and Synchronverter for Unbalanced Grid

Technical Session 12:

Paper ID	Title
287	Virtual Impedance based controller Performance under Non-linear loads with Similar and Dissimilar Combinations
289	Optimal Switching based Hysteresis Current Controller for Grid Connected Modular Multilevel Converter
306	Hybrid Integrator Control with Seamless Mode Transition in Solar PV-SB Based Microgrid
354	Novel Traveling Wave Phase Component-based Fault Location of transmission lines
371	Lyapunov-Based Robust Stability of Converter–Interfaced Wind Turbines for Inertial Frequency Support
375	A Novel Neural Theory for A Shunt Active Power Filter Interfaced Solar Photovoltaic System

Technical Session 13:

Paper ID	Title
364	A cell sorting Algorithm for series-parallel configured Lithium ion battery packs in space crafts
391	A Single Phase Integrated Battery Charger with Active Power Decoupling for Electric Vehicles
420	Load Independent Characteristics of Dynamic Wireless Charging System Through Higher Order Compensation
436	Prediction of Plug-in Electric Vehicle's State-of-Charge using Gradient Boosting Method and Random Forest Method
447	Design and Analysis of Dual Stator Dual Rotor Six- Phase I-Shaped Permanent Magnet Synchronous Motor for Electric Vehicles Application
465	Power Management Strategy Based on Vehicle Dynamics for the Performance Improvement of Electric Vehicles

Technical Session 14:

Paper ID	Title
310	Resilience of Grid-Connected Wind Farm Using a Flexible Asynchronous AC Link
348	Impact of the operation of Accelerator Power Supply on the Distribution Network

Paper ID	Title
355	AN INTELLIGENT-HYBRID RELAYING ALGORITHM FOR DUAL-CIRCUIT TRANSMISSION SYSTEM CONNECTED WITH WTGs
460	Optimization based Variable Learning Factor Least Mean Square Algorithm to Control DVR in Infected Grid Systems
473	Performance Investigation on Damping of Active Power Oscillation in the Large Hydro-Power Plant with Power System Stabilizer
482	Minimum DC Bus Capacitance Limit for STATCOM

Technical Session 15:

Paper ID	Title
206	Novel Wide Voltage Range Multi-Resonant Bidirectional DC-DC Converter
227	A Two-Stage Simplified Predictive Control for Modular Multilevel Converter
230	A Transformer less Quadratic Boost High Gain DC-DC Converter
236	Analysis of DC and AC Choke Effects on Common-Mode Noise Emissions in ASD at the Frequency Range of 9–150 kHz
237	A New Switched Capacitor Nine-Level Inverter with Quadruple Voltage Boosting and Capacitor Voltage Balancing Capabilities
247	Seven-Level Switched-Capacitor Based Multilevel Inverter With Lesser Number of Power Electronic Components and Reduced Voltage Stress

Technical Session 16:

Paper ID	Title
251	A New Topology of Asymmetrical Multilevel Inverter with Reduced Switch Count for Electric Drive Applications
252	A Single-Stage Dual-Source Seven-Level Inverter for Grid Integrated Photovoltaic Energy Transfer System with MPPT
257	Inverter Topology for Zero-Ventilated High Frequency Induction Heating Systems
258	Implementation of Selective Harmonic Mitigation Scheme for Single Phase Inverter Systems
262	Efficient Energy Recovery and Boosting the Voltage Gain of a Soft-Switched Flyback Converter
291	A Novel Design of High Step-Down Non-Isolated DC/DC Converter

Technical Session 17:

Paper ID	Title
221	Switched Reluctance Machine Drives Based Electric Marine-Propulsion System
231	Parameter Estimation in Sensorless Vector controlled Induction motor Drives
256	A Three-Phase Five-Level Active-Neutral-Point-Clamped Z-Source Inverter
265	Comparative Performance Analysis of Hysteresis and PI Current Controller for Torque Control of Switched Reluctance Motor
302	Variable Band Hysteresis Controller Fed IM Drive for Switching Frequency Variation Control
303	Entropy based broken rotor-bar fault detection and estimation of its severity in a three-phase induction motor

Technical Session 18:

Paper ID	Title
254	Dual-Mode Power Control of a Battery Supported Hybrid Power Generation System Based on Maximum Versoria Criterion
269	Lyapunov Function Based Control Strategy for Single-Phase Grid-Connected PV system with LCL filter
281	Model Reference Adaptive System based Line Impedance Estimation for Generalized Droop Control
283	Investigating the Effect of various Voltage Sags on Grid Supporting Inverters
284	Transients during Mode Transition in Microgrids: Performance evaluation for various Droop Controllers
285	Performance Evaluation of a State Machine based Mode Transition Strategy for Microgrids with Power Quality issues

Technical Session 19:

Paper ID	Title
380	Solar-Wind and Battery Supported Grid Interfaced Microgrid with Seamless Grid/DG set Synchronization
384	Real-Time Conservation Voltage Reduction and Control in Smart Micro-Grid Application
387	Price-based Demand Response by Linear OPF
388	A New Protection Scheme for DC Microgrid using Numerical Computational Method
396	Charging Management of Chemical Lithium Nickel Cobalt Aluminum Oxide (LiNiCoAlO2) Batteries, Considering Battery Degradation Effects under Uncertain Operation in Multi-energy Systems
431	Detection of High Impedance Fault in DC Microgrid

Technical Session 20:

Paper ID	Title
501	An Onboard Charger for Light Electric Vehicles
509	Classification of WPT Systems
521	Integrated Battery Management Configurations for Standalone Solar PV fed CHBMLI
522	PV Assisted Battery Swapping Stations (PV-BSS) for Electric Vehicle Scheduling Management
524	Cloud Energy Storage Systems for Consumers and Prosumers in Residential Microgrids
525	Optimised Reference Current Generation for Single-phase Heterogeneous Active Filter

Technical Session 21:

Paper ID	Title
576	Interharmonic mitigation in grid-connected solar PV system with P&O MPPT algorithm
584	Coordinated Control Strategy for Variable Speed Diesel Generator based Hybrid Off-Grid System

Paper ID	Title
628	DC-Offset Rejection Approaches for Single-Phase Frequency-Locked Loop
639	MVZA-LMS with ESOGI-FLL Control for Solar PV-Battery System at Abnormal Grid Conditions
657	L2 Norm based Adaptive LMS Control for Grid Connected Converters
683	Real-time Harmonic Filtering in Grid Interfaced Photovoltaic System Based on Adaptive NLMLS

Technical Session 22:

Paper ID	Title
292	Artificial Neural Network based Direct Inverse Control for a Novel 48V-1V DC/DC Converter
293	Design of a SiC-based Non-Inverting Buck-Boost (NIBB) Converter for High-Temperature Environments
315	Open Switch Fault- DCM Mode Analysis of Neutral Point Clamped Inverter
321	Operation and Control of Integrated Dual-Output Converter interfacing non-linear loads
328	A New Single-Switch Three-Phase AC-AC Boost Converter
329	Conductance Emulation Based Control for Series Stacked Energy Buffer
331	Power Balance Control of Cascaded Matrix-Based Dual-Active-Bridge Converter
333	Nonlinear Effects of Three-phase Diode Rectifier on Noise Emission in the Frequency Range of 2-9 kHz

Technical Session 23:

Paper ID	Title
340	Improved H5 Circuit Based Five-Level Quasi Z-Source Inverter With Reduced Leakage Current
362	Comparative Study of 3 Phase PFC Buck-Boost Converter Topologies for Sonar Amplifiers
369	Control of Switched-Capacitor Based Fifth-order Buck-Boost Converter
379	A Comparative Investigation of Clamping techniques for Bi-directional Energy Harvester Interface (BEHI)
392	Design and Analysis of Fourth Order ZVS Output Filter for Three - Level Buck Envelope Tracking Power Supply
400	Multi-Mode Power Management for Grid-Connected Photovoltaic System Using Indirect Current Control Strategy
403	A New Trinary Source-Based Multilevel Inverter for Renewable Applications
405	Lifetime Analysis of Photovoltaic Inverter Based on Geographical Site of Installation

Technical Session 24:

Paper ID	Title
307	Clamping Modulation Scheme for Low Speed Operation of Dual Inverter fed Drives
317	A higher-order filter approach to implement grid current based active damping in active front end converters
326	High Power Factor Dual-Rotor Halbach Array Permanent-Magnet Vernier Machine

Paper ID	Title
334	Marine Transformer Lifespan Estimation by Hotspot Temperature Measurements
356	Investigations on an SYNRM coupled to a constant power load connected to a weak grid
357	Single-Phase to Three-Phase Matrix Converter Fed Induction Motor Drive for Low Speed Applications
361	Control of Solar-Battery Fed Synchronous Reluctance Motor Drive for Light Electric Vehicle with Range Extension
376	Multimode Operation of a PV-Battery System fed Brushless DC Motor Drive

Technical Session 25:

Paper ID	Title
320	An Enhanced Multilayer GI Based Control for Grid Integrated Solar PV System
322	Differential Power-processing with Built-in Energy Storage for Multi-String Grid Interactive PV System
327	Impact of EV Charging Strategy and Tariff on South Australian Household Electricity Cost
332	A Hierarchical Control Scheme for Electric Vehicle Charging Stations Coordinated Operation
337	Multi-Objective Optimization of Solar PV and Battery Storage System for A Grid-Connected Household
347	A Novel Directly-solvable Non-iterative Load Flow Model for Radial Distribution System Studies
350	Real Time Multi-Objective Energy Management of a Smart Home
397	Performance Analysis of a Grid Connected Solar-PV and PMSG-Wind Energy based Hybrid System

Technical Session 26:

Paper ID	Title
432	Improved Cybersecurity of Power Electronic Converters Used in Hydropower Plant
434	Analysis and Modeling of a Switched Inductor Based Microinverter for Single Phase Grid Connected Photovoltaic Systems
440	Improvement of Transient Stability Limit Using Battery Energy Storage Systems and STATCOM
441	Damping Rotor Angle Oscillations using Battery Energy Storage Systems
446	UPQC Controlled Solar PV-Hydro Battery Microgrid
455	Adaptive Position Observer for Multimode Wind-BES Based Microgrid Interfaced to Distribution Network
463	Design and Characteristic evaluation of a novel dual rotor multi-layer magnetic pole five-phase permanent magnet synchronous generator for marine power application
514	A Comprehensive Control Scheme for the Effective Power Management Based on Power Pools in DC Microgrid

Technical Session 27:

Paper ID	Title
547	Performance analysis of Closed Loop Hysteresis Control of a PV based 8/6 Pole and 10/8 Pole Switched Reluctance Motor for EV Application
556	Comparative Analysis between High-order Compensation and SS-compensation for Dynamic Wireless Power Transfer System
568	An Efficient Topology for Inductive Wireless Power Transfer in Vehicular Application
604	Two-stage Robust Management of PEV Parking Lots Coupled with Multi-energy Prosumers under Load and Energy Market Uncertainty
630	Robust Shortest Path Planning for Aircraft using Bounded Region Voronoi Diagram
642	Performance characteristic analysis of a novel dual stator carbon fiber frame rotor five-phase permanent magnet synchronous motor for electric vehicles application
674	Optimal design of EV aggregator for real-time peak load shaving and valley filling
686	Analysis and Implementation of a Three-Phase Matrix-based Isolated AC-DC Converter With Transformer Leakage Energy Management

Technical Session 28:

Paper ID	Title
24	Multifunctional Adaptive Control Strategy for a Standalone Hybrid Microgrid
75	Robust Power Sharing between Dual Active Bridges to Improve a DC Microgrid's Stability
708	An Enhanced Operation of PV-DSTATCOM
739	A Delta Connected Hybrid STATCOM and Dc Capacitor Voltage Balance Technique Using Zero-Sequence Current
785	Power Factor Correction in Multi-Pulse Rectifier Using Zigzag Auto-connected Transformer and Nonisolated SEPIC Converters
796	Adaptive based Leaky LMS Control Technique of Grid Connected SPV System
816	Power Quality Improvement strategy for DSTATCOM using Adaptive Sign Regressor LMF Control
876	A Full-Feedforward Harmonic Mitigation Scheme in Multi-Parallel Grid-tied Inverters

Technical Session 29:

Paper ID	Title
422	Reduced Switch Count Seven-level Self-Balanced Switched-Capacitor Boost Multilevel Inverter
439	Evaluation and Analysis of Impedance Matching Transformer for HBC-Power Conditioner Controller
467	A Novel AC Module with High-gain Z-Source Converter and Pseudo DC-link inverter
478	A New Soft Switched Flyback Converter with Active Energy Recovery Cell
480	New Passive Auxiliary Circuit for Boost Converter to Provide Zero Input Current Ripple and Soft-Switching
483	High Voltage Flyback Converter for Pulsed Loaded Applications
533	A New Soft-Switched DC-DC Buck Converter with Large Step-Down Ratio
534	Design and Stability Analysis of Low Source Current Ripple Buck Converters

Technical Session 30:

Paper ID	Title
546	A Hybrid Chain-Link Push-Pull Series Connected (H-CL-P2SC) M2C with DC Fault Blocking Capability
555	An Improved Pulse Width Modulation Technique for the Attenuation of Leakage Current in Five-Level Transformerless PV Cascaded Multi-Level Inverter
558	Transformer-less Common-Ground Inverter With Reduced Components
559	Five-level Common Ground Type Inverter for PV Application
868	Design, Simulation and Hardware Implementation of SMPS based High Current Rectifier Simulating Thermal Hydraulic Transients for Nuclear Research
888	Stability Enhancement of Cascaded Power Converters Using Parallel Virtual Impedance Via Output Impedance Shaping of the Source Converter
889	A Novel Single-Phase Five-Level Transformerless H9 Inverter with Voltage Boosting Capability
301	LED Lighting System with Magnetic Control and IoT Sensor Integration for Smart Buildings

Technical Session 31:

Paper ID	Title
378	Dual-Stator Consequent-Pole Linear-Vernier Permanent-Magnet Machine
383	Robust Optimization of a Wind Generator based on an Analytical Model and Wind data of a Site.
386	A Harmonic-Model based Resemblance between PI-SQIM, DI-OWIM, and DI-WRIM drives
412	Limitations in Inner-loop PI Controller for Induction Motor Drive with an LC Filter & Its Remedies
424	Dead-time Compensation via Adaptive Lookup Table Reconstruction for Low-Speed Operation
443	Design, Analysis and Realization of Tubular Linear Induction Motor for Hammering Application
488	Modelling and Design of Average Current Filtered BLDC Motor Drive
497	Development of Optimum Double Sided Linear Induction Motor for Military Application

Technical Session 32:

Paper ID	Title
398	A Zone-Based Modulation Strategy to Reduce the Leakage Current in Transformerless PV Inverters
406	Design and Performance Analysis of 1500 Capacity Dual Powered Solar Incubator
407	Evaluation of Integrated Dual-DC Boost Converter as Energy Management System for Standalone Solar-Battery Applications
408	Smart Inverter Communication Model and Impact of Cybersecurity Attack
416	A Novel Single Phase Grid connected Transformer-less Solar Micro-inverter Topology with Power Decoupling Capability
417	Bi-Level Operational Planning of Microgrids considering Conservation Voltage Reduction

Paper ID	Title
430	Power Sharing between DC Microgrids through Interlink Non-isolated Cluster Converter
464	SPV-BES System Feeding Power to Low Voltage AC Network and Nonlinear Loads

Technical Session 33:

Paper ID	Title
516	Detection of phase loss Fault in a Three-Phase Transformer Based Grid-Feeding PV Inverter
520	Availability Based Load Harmonic Compensation Using PV Inverter
523	Optimised Reference Current Generation For Enhanced Single-phase STATCOM
531	An Interaction Less Duo Control Strategy for Bi-polar Voltage Source Converter in Renewables Integrated Multi-Terminal HVDC (MTDC) Grids
537	Power Quality Improvement in Fifteen Level PUC for PV Grid-Tied Applications
550	Modified Voltage and Frequency Control of Parallel-Connected Grid-Forming Inverters by Virtual Synchronous Machine Controller
662	PV Characterization Method With Controlled Resolution
666	Superimposed Component based Fault Detection Scheme for Multi-port DC Microgrid

Technical Session 34:

Paper ID	Title
705	An On-Board Fast Charger using New Bridgeless PFC Converter with Reduced DC-Link Capacitance
711	Optimal Siting of Electric Vehicle Battery Swapping Stations with Centralized Charging
726	A Modular Transformer-Coupled Multi-Active Half-Bridge Charge Balancing Architecture for a Lithium-ion Battery Pack
727	Interleaved Operation of Conventional PWM Control in a Buck-Boost Active Balancing Circuit
762	Optimized Charge Scheduling of Electric Buses in a City Bus Network
766	Accurate Battery Modeling Based on Pulse Charging using MATLAB / Simulink
789	Fault Tolerant Electric Vehicle during Multi-current sensor failure by achieving IFOC of IM Drive
794	An Interleaved Isolated DC-DC Converter with Active Clamped Circuit for EV Applications

Technical Session 35:

Paper ID	Title
84	A High-Performance Solar PV Array-Wind and Battery Integrated Microgrid for Rural Electrification
85	Dual Operating Modes of Quasi Z-source Inverter with Seamless Transition
119	Proposed Electricity Tariff Model for Residential Consumers in Maharashtra
130	Power Quality Monitoring and Analysis of the Domestic Grids – A Case Study
772	Fuzzy logic based fault detection and classification in Unified Power Quality Conditioner (UPQC)-compensated distribution line
878	Effective Protection Scheme for Reliable Operation of Multi-microgrid

Paper ID	Title
874	A New Topology for DC Circuit Breakers with the Regenerative Current Breaking Capability
207	Planning of EV Fast Charging Station including DG in Distribution System Using Optimization Techniques

Technical Session 36:

Paper ID	Title
567	Interleaved PWM for Parallel Converters with Single DC Link for Zero Circulating Current
573	Instability in Peak Current Mode Controlled Coupled SIDO Buck Converter
579	Input Voltage Feedforward and Feedback Control of Coupled Inductor SIDO Buck Converter
581	Dynamic Performance of Coupled SIDO Buck Converter Operating in Current Mode and Voltage Mode control
585	Performance Analysis of Voltage Multiplier Coupled Quadratic Boost Converter
592	Super Twisting Sliding Mode Control of Dual Active Bridge DC-DC Converter.
234	Analysis of magnetic materials and the design of EI-core arm inductor for MV-AFE MMC application using Multi-objective optimization
571	Enhancing Inverters Output Voltage Quality Via Uncertainty and Disturbance Estimator-Based Controller with a Multi-Band-Stop Filter.

Technical Session 37:

Paper ID	Title
597	Behavioral Modeling of Perovskite Solar Cells and Study of its properties based on composition
601	Inductor Current Ripples Minimization in Coupled Inductor Single Input Triple Output Boost Converter by Gate Pulse Shifting
602	Inductor Current Ripples Minimization in Coupled SIDO Buck and Buck-Boost Converter by Gate Pulse Shifting
620	Minimum Leakage Inductance for Soft-switching of Dual-Active Half-Bridge DC-DC Converter
624	Single-Phase 9L Switched-Capacitor Boost Multilevel Inverter Topology
626	Self-Reliant Feature in DC-DC Converters for Open Circuit Faults
633	Switched L-C Cell Based Interleaved Boost Converter
644	Maximum Efficiency Point Tracking Scheme for Constant Output WPT System with Double-side LCC Compensation

Technical Session 38:

Paper ID	Title
504	Design and Comparative analysis of Halbach Array and Surface mounted magnetic pole Dual rotor De-coupled stator Six-phase Permanent magnet synchronous generator for Wind power application
535	Performance Analysis of Twin-Rotor Axial Flux Permanent Magnet Synchronous Motor for In-Wheel Electric Vehicle Applications with Sensorless Optimized Vector Control Strategy

548	Single Sensor Based Vector Controlled PMSM Drive
549	Speed Sensorless Vector Controlled PMSM Drive with A Single Current Sensor
578	Reactive Power Compensation With Nine-Switch AC/AC Converter and Predictive Current Control Applied to a Variable Speed Driving Induction Motor
587	Looseness Identification of Stator End Windings of Induction Motor by Modal Test
595	Study of Broken Rotor Bar Fault for Asymmetrical Six-Phase Induction Motor
606	A Comparative Study of Axial-Flux versus Radial-Flux Induction Machines

Technical Session 39:

Paper ID	Title
469	Power Management of a Grid Interactive PV - Fuel Cell Hybrid System with Power Dispatch to the Grid Using Modified LMS Control
471	Multiple Sinusoidal Signal Integrators and Unintentional Islanding Controlled PV-BES System at Unbalanced Grid Conditions
477	Multifunctional Model Predictive Control of Grid Connected Voltage Source Converter
484	Improved ODD-EVEN Technique for Effective Shade Dispersion in TCT Configuration
492	Bidirectional Boost Converter based Solid State Transformer for AC/DC Micro-Grid Application
503	Design and Performance Optimization of Dual rotor De-coupled stator multi-phase Hybrid magnetic pole Permanent magnet synchronous generator for Wind Turbine application
511	Maximum Power Point Tracking Based on Reinforcement Learning in Photovoltaic System
552	Novel Method to avoid the Tripping of Converter During Fault Condition in DC Microgrid

Technical Session 40:

Paper ID	Title
700	Hierarchical Control for Effective Power Management and to Improve Voltage Regulation in DC Multi-Microgrid System
715	Optimal and Economic Cable Connection for 1 GW Offshore Wind Farm Project Near the Gujarat Coast in India
719	DC-link Voltage Feed Forward Controller for Buck Active Power Decoupling Circuit
730	Stability Improvement of Series Stacked Buffer Circuit in Single Phase Solar Inverter
737	TSBC Converters for Decouple Control of DFIG in Micro-Hydro Power Plants
756	MMCC based PMSG for Oceanic Wave Energy Conversion System
770	Decoupled Control of Asymmetrical Multilevel VSI for Standalone PV application
65	A PV-Battery System Integrated to Weak Distribution Grid with PV Intermittency Smoothening and Feed-in Tariff Operation with Improved Power Quality

Technical Session 41:

Paper ID	Title
36	An Economical Approach for Solar PV-Battery Based E-Rickshaw with Regenerative Braking using Sensorless BLDC Motor Drive
38	An Electric Vehicle Charger Based on Vienna Rectifier and Resonant LLC Converter

Paper ID	Title
41	Single Stage Isolated Bridgeless Charger for Light Electric Vehicle with Improved Power Quality
57	A Modified High Gain Boost TNPC Inverter with Neutral Point Balancing for Three-Phase Induction Motor Driven Electric Vehicle
857	Efficiency Analysis of a 7.4 kW Dynamic Wireless Charging System for Electric Vehicle Through GaN Devices
866	State of Charge Estimation of Li-ion Batteries Considering Uncertainties Due to Sensor Measurement Biases and Temperature Variations
877	Solar PV Array Powered ON Board Electric Vehicle Charging with Charging Current Protection Scheme
890	A Charge Redistribution Technique for Lithium ion Battery pack based on Active clamp Forward converter

Technical Session 42:

Paper ID	Title
222	Bearing Fault Detection in Induction Motors Employing Difference Visibility Graph
323	Variable Gain Observer based Estimation of Capacitor Voltages in Modular Multilevel Converters
325	Consensus Control of Two Wheeled Mobile Robots with Time Delay
382	Two-Stage Deep Learning for Condition Monitoring of Wind Turbine Using SCADA Data
486	Generalized Predictive Control of pre-compensated DC-DC buck converter
508	Design of PID and Model Predictive Control for Stabilization of Photovoltaic Voltage
583	Detection and Classification of Internal Faults in Power Transformers using Tree based Classifiers
860	Selective Harmonic Elimination of a New UXE-Type Inverter based on Ant-Colony Optimization

Technical Session 43:

Paper ID	Title
656	Performance Analysis of Coupled Inductor Based Ripple Free Boost PFC AC-DC LED Driver
660	Time Sharing Control Based New Four Port Converter for Grid Integrated Solar PV Fed BTS Load
680	Analysis of Different Transition Techniques for Non-Isolated Bidirectional DC-DC Converters
687	Common Mode Impedance Shaping Choke to Attenuate the Conducted EMI in Three Phase Drive
692	Power Flow Control of Grid-Connected Single-Source Multilevel Converter with DC-Link Voltage Control
697	A Fault tolerant architecture of nine-level inverter with single and multiple switch fault-tolerance capabilities
706	A comprehensive overview of Active Power Decoupling-integrated Switched Boost Inverters
712	Analysis of a New Asymmetrical15-Level Inverter with Distinct Modulation Techniques

Technical Session 44:

Paper ID	Title
716	Reduction of Voltage Ripple for Single-phase Chopper Integrated ANPCI based on Hysteresis Voltage and Chopper Current Control Methods
724	Improved Five-Level Transformerless Inverter with Reduced Part Count
732	Discontinuous Conduction Mode analysis of Single-phase Switched Boost Inverter with a dc load
736	Effect of Non-Idealities on Commutation Process of direct AC-AC based Power Electronic Transformers
738	A Novel Hybrid Multilevel Converter for Medium Voltage Applications
757	Active Power Decoupling for Differential Buck Inverter using Virtual Resistor
759	Study of Forsmark-Type Voltage Transient on Power UPS in Nuclear Power Plants
775	Single Active Switch High Voltage Gain DC-DC Converter with Reduced Devices Stress

Technical Session 45:

Paper ID	Title
607	Surface Permanent Magnet Machines: A Comparative Study (4-pole vs. 40-pole motor)
622	Common Mode Voltage Elimination in a Three-to-Six Phase Indirect Matrix Converter Using SVM Technique
649	Design and Analysis of Small-Aspect Ratio Switched Reluctance Motor
650	Axial-Flux Synchronous Reluctance Motors: Introduction of a New Machine
746	A Novel 4-level Converter with Inherent Voltage Boosting for 4-Phase SRM
747	Speed Control of Brushless Induction Excited Synchronous Motor (BINSYM)
753	Control of a Waveshaper-MMC with Thyristor-based Front-end Converter for Open-end Winding Variable Speed Medium Voltage Induction Motor Drive
764	Continuous and Discontinuous SVPWM with Switching Loss Control for Five-Phase Two-Level VSI fed Induction Motor Drive

Technical Session 46:

Paper ID	Title
563	Sliding Mode Controlled Solar Power Based Induction Motor Drive
575	Load Profile Aware Demand Response Based on Event and Temporal Limitations
594	Integration of renewable energy sources with MVDC network
603	Application of Machine learning for Prediction of Solar Microgrid System
618	A Modified Z-Source DC Circuit Breaker for Power Electronic Converter Load Application
635	Reduction of PV Curtailment through Optimally Sized Residential Battery Storage
636	Analysis of Solar PV fed Cascaded H-bridge Converter during Low Voltage Ride Operation
646	Proposing New Analytical Competitiveness Indices to Assess Total Electricity Market Deviation Possibility

Technical Session 47:

Paper ID	Title
802	Design and Thermal Analysis of a Dual Stator Non-magnetic Rotor Five-phase Permanent Magnet Synchronous Generator for Hydro Power Plant
803	Low Voltage Ride Through (LVRT) Strategies for single phase grid connected PV Fed Cascaded Multilevel Inverter
818	An Integrated Four-leg Three-phase Transformerless PV Inverter with Voltage Boosting Capability
820	Control approaches for Enhanced sharing of Unbalanced Powers amongst Inverter based DGs in Islanded AC Microgrids
821	Performance of Droop Controller Combinations in Islanded Microgrids with Unbalanced Loads
824	Prediction of Power Demand in Residential Areas Using the Load Profile Clustering Technique
825	Design and Thermal Investigation of a Dual Rotor De-Coupled Stator Multi-phase Permanent Magnet Synchronous Generator for Wind power Application
826	Dynamic Power Coupling Analysis of Droop Based Autonomous Microgrid Using Dynamic Relative Gain Array

Technical Session 48:

Paper ID	Title
862	Internal model Control to an isolated Dual Active Bridge DC-DC converter
202	Using Magnetic Control of DC-DC SIMO Converters in LED Driver Applications
502	Extended Bucking Range Fifth-Order Buck-Boost Converter
831	Analysis and Design of DCM Operated Bridgeless Buck-Boost Derived PFC Converter for Plug-in Charging Application
865	Partial Series Resonance-Pulse Assisted Zero-Current-Switching Current-Fed Three-phase Current Sharing DC-DC Converter
35	High Power Density Mil-Grade Multiple Output Dc-Dc Converter
169	Reliability Analysis of a Solar Inverter during Reactive Power Injection
242	Machine Learning based Fault Classification Approach for Power electronic converters

Technical Session 49:

Paper ID	Title
720	On-line Detection and Mitigation of Faulty Position-signal for Switched Reluctance Motors
733	A Five-Level Boost NPC Inverter for Electric Vehicle
742	Generalized Carrier Based Technique for Eliminating CMV in 3-Phase n-level NPC Inverter
743	Rapid Performance Prediction of Permanent Magnet Vernier Machine
814	Online Inductance Estimation of Speed Sensorless Induction Motor Drives
314	Stator Notching Design of Permanent Magnet Brushless DC Motor to Mitigate the Cogging Torque
476	An Integrated Single Switch AC-DC System for LED Driven by an Unconventional Rectifier

Paper ID	Title
437	Improved Back-Emf Detection Technique for Position Sensorless Control of Permanent Magnet Brushless DC Drive

Technical Session 50:

Paper ID	Title
776	A New Architecture for Circulating Current Control in a Multi-port Hybrid Nine-Arm Modular Multilevel Converter
779	Charge-pump Based Enhanced Gain Quasi Z-source Equivalent DC-DC Converter
787	Non-Isolated Three Port Converter using Modified Time Sharing Control Scheme for PV Based LVDC Application
793	Three-phase SCR Phase-Controlled Resistive Heating System with Low Line Current THD
798	A Switched Capacitor Multilevel Inverter With Self Voltage Balancing Capability
799	A dual-input converter topology for interfacing a power-factor-corrected AC and a DC input to Standalone DC loads
819	Comparative Analysis of Continuous Time Small Signal Models of Single Phase Shift Modulated Dual Active Bridge Converter
829	Benchmarking High Power Switching Performances of Ga2O3 based Schottky Barrier Diodes with SiC Devices

Technical Session 51:

Paper ID	Title
389	Circulating Current Reduction in Parallel Grid Connected Two Level VSI using Hybrid Carrier Based Modulation
685	Full Order Averaged Modelling for Modular Solid State Transformer
836	A Novel Switched Capacitor 4-level Single-Phase Inverter with Voltage Boosting and Common Ground
839	Review of Front-end DC-DC Boost Converters in Two-stage Micro-inverters
842	Virtual Impedance-based Stabilization of Dual Active Bridge Converter Cascaded with LC Filter
853	Analysis of Cascaded Z-Source Topology Implementing DC-Link Voltage Balancing
856	Low Switching Frequency Based 17 Level Inverter With Nearest Level Control
859	Differential Evolution based Selective Harmonic Elimination of a New WE-Type 13-Level Inverter

Technical Session 52:

Paper ID	Title
765	Design and Thermal Network Modeling of BLDC Motor for Submersible Pump Application
769	Design of An Outer Rotor SRM for Efficient Ceiling Fan Application
790	Performance and Temperature Estimation of Induction Motor from Transient Measurement
840	A Novel Static Optimization Scheme to Minimize the Energy Consumption of PMSM Driven Elevators by Reducing their Leveling Time in the Creep to Floor Speed Profile

Paper ID	Title
664	Inter-Turn Fault Diagnosis of Induction Motor Fed by PCC-VSI Using Park Vector Approach
667	Harmonic Reduction and Performance Improvement of BLDC Motor Using a Selective Harmonic Elimination PWM Based Controller
669	Diagnosis of Stator Winding Fault of Single-Phase Induction Motor Employing Wavelet Induced Residual-Convolutional Neural Network
688	Hybrid System Simulation of Current Controlled BLDC Drive

Technical Session 53:

Paper ID	Title
335	A Switched Capacitor Based BLDC Drive
755	Space Vector Modulation Technique with Improved Harmonic Performance for a Five Phase Induction Motor Drive in the Over-Modulation Region
844	A Novel Three-Phase Induction Motor Drive with Voltage Boosting Capability, Low Current THD and Low Common Mode Voltage
845	Novel Pre-charging Method for a Switched Capacitor Voltage Boosted Three-Phase Induction Motor Drive
849	Design of Zigbee based Wireless Stepper Motor Controller using FPGA
858	A Three-Phase Enhanced Boost switched Inductor Z-Source Based Three-level Inverter-fed Induction Motor Drive
864	Adaptability of 9-Switch Inverter Configurations for Multiphase Induction Motors with Phase Re-configuring Techniques
225	Sensorless Control based on Sliding Mode Observer for PMSM drive

Technical Session 54:

Paper ID	Title
72	Wind Farm Generators Thermal Condition Monitoring Based on Long Short-Term Memory
80	A Robust Control for Solar and SyRG Based Hydro Generation Microgrid with Grid Synchronization
89	Reconfigurable Two-Stage Solar PV -Battery Supported– Small Hydro System Based Micro-Grid
92	Optimum utilization of photovoltaic generation with battery storage in distribution system by utilizing genetic algorithm
846	Communication based predictive dynamic stability scheme in microgrid with high penetration of DERs
852	Small Signal Stability Analysis of Three-Phase Micro-grid in the Presence of Energy Storage System
869	Optimal Number of Wind Turbine in Farm Layout with Power Maximization
870	Design & Simulation of DSP based 24 kA Thyristor Controlled Rectifier for Nuclear Reactor Safety Study

Technical Session 55:

Paper ID	Title
94	Optimal Proportional Resonant Control of Single PV fed Multilevel Converter Tied to Weak Grid

Paper ID	Title
107	Coordination Framework for Optimal Multi-Energy Dispatch in Heat and Power Distribution Networks
5	Multi-Mode Features of CIPNLMS-MFX Controlled Single-Phase PV System with Islanding Detection under Grid Outage
11	Multifunctional Grid Interfaced Solar Based Microgrid with Seamless Mode Transition
46	Control of Three-Phase Four Wire Grid Integrated Multiple Solar PV Arrays-Battery with Bidirectional Converter Based Microgrid
49	Mathematical Modeling of Flat Plate Solar Collector
62	A New Pulsating DC-link Three-Phase Transformerless Inverter for Renewable Applications
722	A Modified Load Sharing Technique for Area Electric Power System

Technical Session 56:

Paper ID	Title
589	Mitigation of SSR in Series-Compensated DFIG-Based Wind Farms with STATCOMs using a Nonlinear Backstepping Control Scheme
690	Nonlinear Partial Feedback Linearizing Output Feedback Control of Islanded DC Microgrids
288	Improving the Efficiency of the DAB Converter of an On-board EV Charger Using Different Modulation Techniques
318	Solar Energy Forecasting Using Modified Polynomial Neural Network
527	Effect of FOIDN+TID Damping Controller based GCSC on Load Frequency Control
617	Modeling and Control of a Solid State Transformer Interfaced Wind Energy System with a Permanent Magnet Synchronous Generator
245	Decentralized Primary and Distributed Secondary Control for Current Sharing and Voltage Regulation inDC Microgrid Clusters with HESS
345	Model Predictive Control based Coordinated Voltage Control in Active Distribution Network utilizing OLTC and DSTATCOM

Technical Session 57:

Paper ID	Title
71	Model Predictive Control for Modular Electric Vehicle Charger
879	IoT Remote Control of Plug-in Electric Vehicle Charging Loads for Smart Energy Management of Virtual Power Plants
881	A Bi-level Energy Management Model for Energy Transactions from VPP based Integrated Energy Systems under System Uncertainties
691	A Novel Coupled Inductor Based Active Balancing Technique for Ultracapacitors
663	A Wide Speed Operable Multiport Solar-assisted SRM EV Drive with Integrated Driving/Charging Capabilities
694	Optimal Sizing Analysis of Battery Energy Storage System for Electric Vehicle
468	Fault Tolerant Capability of Battery Assisted Quasi-Z-Source Inverter Fed Five Phase PMSM Drive
677	Optimal Operation of 2nd Use Battery Energy Storage System through Power Reduction Method

Technical Session 58:

Paper ID	Title
51	Lifetime enhancement of Li-ion batteries used for Ancillary services
872	Calculation of Unbalances in Network Shunt Capacitances of Power Distribution Systems
811	Online Adaptive Damping Controller Architecture for Wind Integrated Power Grid
812	ADMM Based LQR for Voltage Regulation Using Distributed Energy Resources
815	Power Quality Improvement strategy for DSTATCOM using Adaptive Sign Regressor LMF Control

Technical Session 59:

Paper ID	Title
305	A Flexible Compensation Strategy for Weak Grid-Tied Current Controlled Converters Under Unbalanced and Harmonic Conditions
449	A Multi-Gene Symbolic Regression Approach of Determining Insulating Oil Interfacial Tension
643	Alternate power flow controller for voltage control in an unbalanced distribution network
728	Optimal Placement of Shunt Capacitor to Enhance Distribution System Reliability

Technical Session 60:

Paper ID	Title
373	A New Reduced Switch Count Boost Topology with Triple Voltage Gain
714	A coupled inductor based LCD network integrated high gain quadratic converter for renewable applications
880	Current Fed Dual Active Bridge based Multi-Port DC/AC Converter for Standalone Solar PV fed Systems with Battery Backup
681	Design and Analysis of Closed-Loop Control for Full-wave Rectifier by using IMC Controller.
116	Design Bi-directional CLLC Resonant Converter with Planar Transformer and Synchronous Rectification for Energy Storage Systems
553	High Stability Adaptive LDO using Dynamic Load Sensing for Low Power Management of WSN
847	3Nx DC-DC Converter: Interleaved Topology To Enhance Voltage Transfer Gain
560	Double switch two leg high gain boost converter for renewable energy applications in a DC microgrid
561	Asymmetrical Switched Inductor Embedded Impedance Source Inverters with Reduced Number of Components

Technical Session 61:

Paper ID	Title
806	Comparison Between PM Motors for an Aircraft E-pump Drive
827	Inductances Computation Using Finite Element Analysis for PMSM Sensorless Control

828	An Automated Design Procedure for the Power Density Optimization of IPM machines
886	An Advanced Excitation Control Scheme for a Synchronous Generator in a Single Machine Infinite Bus System Based on Detailed Dynamical Models
510	Gauss-Newton: A Prediction-Error-Gradient based Algorithm to Track PMSM Parameters Online
572	Synchronous PWM Technique based on Reference angle for Induction Motor Traction Drive Application

Technical Session 62:

Paper ID	Title
882	Dual Active Bridge based DC/AC converter for Standalone Renewable Energy Systems with Low DC Link Capacitance
740	A Review of High Gain Inverters for Smart-grid Applications
564	Multi-Objective Optimization of System Configuration and Component Capacity in AC Mini-grid Hybrid Power System
810	A Spectral Clustering Based Distributed Control of Distributed Energy Resources (DERs) Integrated Power Distribution System
813	Control Uncertainty Based LQR for Frequency Regulation Using Distributed Energy Resources
854	GA Optimized SHE and Proportional Resonant Controller Tuned Integration of Solar PV to the AC Grid using Packed U Cell Inverter