Conference Schedule

Date	Time	Event
2 Feb. 2021 (14 Bahman 99)	09:00-10:30	**Opening Ceremony**
	10:30-11:30	Keynote Speech 1: **Prof. Carlo Cecati**
	11:30-12:30	Keynote Speech 2: **Prof. Shahrokh Farhangi**
	14:00-16:00	Session D1: **DC-DC Converters**
		Session G: **Microgrids**
	16:00–18:00	Session V: **Hybrid/Electric Vehicles**
		Session I: **Inverter Structures**
3 Feb. 2021 (15 Bahman 99)	08:00-10:00	Session D2: **DC-DC Converters**
		Session E1: **Electric Machines and Drives**
	10:00-12:00	Session C1: **Control of Power Electronic Converters**
		Session E2: **Electric Machines and Drives**
	12:00-14:00	Session A1: **Application of Power Electronic Converters**
		Session T: **Wireless Transmission and Power Systems**
	14:00-16:00	Session M1: **Multi-Level Inverters**
		Session A2: **Application of Power Electronic Converters**
	16:00-18:00	Session D3: **DC-DC Converters**
		Session R: **Resonant Converters and Energy Storage Systems**
4 Feb. 2021 (16 Bahman 99)	08:00-10:00	Session D4: **DC-DC Converters**
		Session C2: **Control of Power Electronic Converters**
	10:00-12:00	Session M2: **Multi-Level Inverters**
		Session A3: **Application of Power Electronic Converters**
	12:00-14:00	Session E3: **Electric Machines and Drives**
	14:00-16:00	Session D5: **DC-DC Converters**
		Session C3: **Control of Power Electronic Converters**
	16:00-18:00	**Closing Ceremony**

Topic	Papers	Sessions	Topic	Papers	Sessions
DC-DC Converters (D)	30	5	**Control of Power Electronic Converters (C)**	18	3
Multi-Level Inverters (M)	14	2	**Microgrids (G)**	6	1
Inverter Structures (I)	6	1	**Application of Power Electronic Converters (A)**	18	3
Electric Machines and Drives (E)	18	3	**Wireless Transmission and Power Systems (T)**	6	1
Hybrid/Electric Vehicles (V)	6	1	**Resonant Converters and Energy Storage Systems (R)**	7	1

Workshops

Monday, 1 Feb. 2021 (13 of Bahman 99)

Date	Time	Topic	Presenter
1 Feb. 2021 (13 Bahman 99)	08:00-10:00	Sensorless Application of Predictive Control in Drives	J. Rodriguez Universidad Andres Bello C. Garcia Universidad de Talca A. Davari Shahid Rajaee University
	10:00-12:00	Modeling of distributed power generation sources electronic converters in Matlab software	J. Behkesh Ardabil Province Electrical Distribution Co.
		Implementation Hardware-in-the-loop Simulation to Control of Power Microgrids	S. Roozbehani University of Khaje Nasir aldin Toosi Jahad Association
	12:00-14:00	Power Quality Improvement in Distribution Systems Using Inverter-based DERs (IBDERs)	R. Rezvanfar University of Tabriz
		The effects of widespread use of power-electronic based DG source on the electric network power quality	M. Youhannayee Gilan Province Electrical Distribution Co.
	14:00-16:00	Power Quality in transition from traditional to modern power Grids	Y. Naderi University of Strathclyde
	16:00-18:00	Electromagnetic Magnetic (EMI) Reduction Techniques in WBG Power Electronic Converters	Mostafa Abarzadeh SmartD Technologies, Montreal, Canada

Day 1: Tuesday, 2 Feb. 2021 (14 of Bahman 99)

Day 1: Tuesday, 2 February 2021 (14 of Bahman 1399)				
Session	**Chairs**	**Paper ID**	**Title**	**Time**
D1 DC-DC Converters		pedstc12-1002	A New Topology of High Step-Up Non-Isolated DC-DC Converter with Modifying in VMC	14:00-14:20
		pedstc12-1006	Design and Implementation of a Transformerless High Step-Up DC-DC Converter Based on Conventional Boost Converter and Voltage Multiplier Cells	14:20-14:40
		pedstc12-1009	Full Soft-Switching Ultra-High Gain DC/DC Converter Using Three-Winding Coupled-Inductor	14:40-15:00
		pedstc12-1015	Common Grounded High step up Z-Source DC-DC Converter with Coupled Inductors	15:00-15:20
		pedstc12-1016	A Non-isolated High Step-Up DC-DC Converter Recommended for Photovoltaic Systems	15:20-15:40
		pedstc12-1022	New Single-Switch Non-isolated Boost DC-DC Converter with Free Input Current Ripple	15:40-16:00
G Microgrids		pedstc12-1033	Event-Triggered Fully-Distributed Secondary Control of Islanded DC Microgrids Using Pre-defined Event Condition	14:00-14:20
		pedstc12-1049	A Localized–Protection Scheme for Ring DC Microgrids using Distribution-Sensitive Poverty Index	14:20-14:40
		pedstc12-1052	A Model Predictive Control for a Four-Leg Inverter in a Stand-Alone Microgrid under Unbalanced Condition	14:40-15:00
		pedstc12-1076	Delay and General Multiplicative Noise-Resilient Secondary Frequency and Voltage Control for an Autonomous Microgrid	15:00-15:20
		pedstc12-1099	Application of online empirical mode decomposition and continuous wavelet transform for Power Smoothing in Low voltage Microgrid with Battery Energy Storage System	15:20-15:40
		pedstc12-1153	Optimal Placement and Sizing of Energy-related Devices in Microgrids Using Grasshopper Optimization Algorithm	15:40-16:00
V Hybrid/Electric Vehicles		pedstc12-1043	Selective Utilized Phase Number of Multiphase Induction Motors Strategy to Enhance Electric Vehicles' Drive Range	16:00-16:20
		pedstc12-1053	Control of In-Wheel Hub Direct Drive PMSM for Hybrid Electric Vehicle	16:20-16:40
		pedstc12-1148	Performance Improvement of Control System for Wireless Charging of Electric Vehicle	16:40-17:00
		pedstc12-1147	Grid Synchronization of Bidirectional Electric Vehicle Chargers Using Second Order Generalized Integrator based Phase Lock Loop	17:00-17:20
		pedstc12-1139	Implementation of Burp Pulse Charging in Inductive Power Transfer Systems with LCC-Series Compensating Topology for Electric Vehicle Charger Application	17:20-17:40
		pedstc12-1111	A Multiport Isolated DC-DC Converter for Plug-in Electric Vehicles Based on Combination of Photovoltaic Systems and Power Grid	17:40-18:00
I Inverter Structures		pedstc12-1014	Single-Phase Two-Stage Transformerless Grid-Connected Inverter for Photovoltaic Applications	16:00-16:20
		pedstc12-1071	Using Grid Connected PUC Inverter with Robust Control Against Hybrid DG's Oscillation	16:20-16:40
		pedstc12-1079	High Step up Switched-Capacitor Quasi-Switched Boost Inverters	16:40-17:00
		pedstc12-1120	Transformerless Grid-Connected Asymmetric PV Inverter with Constant CMV and Reactive Power Injection Capability	17:00-17:20
		pedstc12-1113	Half-Bridge Trans-Z-Source Inverter with Continuous Input Current	17:20-17:40
		pedstc12-1008	Hyper-Plane Sliding Mode Control of Non-Minimum Phase Grid-Connected Zeta Converter	17:40-18:00

Day 2: Wednesday, 3 Feb. 2021 (15 of Bahman 99)

Day 2: Wednesday, 3 February 2021 (15 of Bahman 1399)				
Session	**Chairs**	**Paper ID**	**Title**	**Time**
D2 DC-DC Converters		pedstc12-1025	A Quadratic High Step-up DC-DC Boost Converter Based on Coupled inductor with Single Switch and Continuous Input Current	8:00-8:20
		pedstc12-1027	A Non-Isolated Bidirectional DC-DC Converter with Wide Voltage Conversion Ratio and Soft-Switching Capability	8:20-8:40
		pedstc12-1039	A Three-Winding Coupled-Inductor High Step-Up Boost Converter with an Active-Clamp Circuit	8:40-9:00
		pedstc12-1040	A New High Step-Up Interleaved LLC Converter	9:00-9:20
		pedstc12-1045	A Dual Active Bridge Converter with Full ZVS Range Using a Buck-Boost Converter	9:20-9:40
		pedstc12-1056	Double-Input/Single-Output Zeta Converter	9:40-10:00
E1 Electric Machines and Drives		pedstc12-1030	Modeling of linear switched reluctance motors using fuzzy clustering method	8:00-8:20
		pedstc12-1042	Model-Free Finite Set Predictive Voltage Control of Induction Motor	8:20-8:40
		pedstc12-1050	Optimal Design of a Permanent Magnet Synchronous Motor Using the Cultural Algorithm	8:40-9:00
		pedstc12-1054	Multi-Objective Optimization of Permanent Magnet Synchronous Motor Based on Sensitivity Analysis and Latin Hypercube Sampling assisted NSGAII	9:00-9:20
		pedstc12-1058	Multi-objective Optimization of a Permanent Magnet Synchronous Motor for Gearless Elevator	9:20-9:40
		pedstc12-1059	Investigations of Magnet Shape Impacts on Coreless Axial-Flux PM Machine Performances	9:40-10:00
C1 Control of Power Electronic Converters		pedstc12-1004	MPPT Controller Design Using TLBO Algorithm for Photovoltaic Systems Under Partial Shading Conditions	10:00-10:20
		pedstc12-1013	Improved Model Predictive Control Methods with Natural Capacitor Voltage Balancing for the Four Level-Single Flying Capacitor (4L-SFC) Inverter	10:20-10:40
		pedstc12-1019	A Deadbeat Controller Design for Single-Phase Active Power Filters Based on Forward-Backward Discretization	10:40-11:00
		pedstc12-1028	Performance Improvement of Model Predictive Control for Modular Multilevel Converters by Auto-regulating the Weighting Factor Value	11:00-11:20
		pedstc12-1031	Stabilization of DC / DC Converter with Constant Power Load using Exact Feedback Linearization Method based on Backstepping Sliding Mode Control and Nonlinear Disturbance Observer	11:20-11:40
		pedstc12-1060	Computation Reduction for Balancing the Voltages of the DC-link Capacitors in 3-level Inverter by Using Redundant Switching States	11:40-12:00
E2 Electric Machines and Drives		pedstc12-1080	Design Optimization of Tubular Linear Induction Motor Using Genetic Algorithm and Response Surface Methodology	10:00-10:20
		pedstc12-1093	Static Eccentricity Fault Detection in Salient and Non-Salient Synchronous Generators Using Harmonic Components	10:20-10:40
		pedstc12-1098	Comparison Study of Active Flux based Sliding-Mode Observer and PLL based Sliding-Mode Observer Sensorless Control of SynRM	10:40-11:00
		pedstc12-1115	Direct Thrust Force Control (DTFC) of Optimized Linear Induction Motor with Super Twisting Sliding Mode Controller (STSMC)	11:00-11:20
		pedstc12-1117	Sensorless flying start method for starting of induction motors	11:20-11:40
		pedstc12-1140	Robust Design of BLDC Motor for Jetboard Application	11:40-12:00
A 1 A		pedstc12-1003	Design and Implementation of an Adjustable 400 Hz Single-Phase Power Frequency Inverter	12:00-12:20

		pedstc12-1010	Single-Phase Dynamic Voltage Restorer Based on AC-AC Trans-Z-Source Converter for Voltage Sag and Swell Mitigation	12:20-12:40
		pedstc12-1035	A Bridgeless Soft Switching PFC AC/DC Converter with Active Clamping Auxiliary Circuit	12:40-13:00
		pedstc12-1044	Performance Analyses of a Three-Port Converter for Post-Fault Conditions in Aerospace Applications	13:00-13:20
		pedstc12-1048	A new Resonant Domestic Induction Heating converter with High Power Conversion Efficiency	13:20-13:40
		pedstc12-1070	Bridgeless High Voltage Gain Active PFC Rectifiers with Positive/Negative Output and Low Semiconductor Count	13:40-14:00
T Wireless Transmission and Power Systems		pedstc12-1055	A Single-Phase Wireless Power Transfer System with a High-Frequency AC Link Converter in the Secondary for Three-Phase Applications	12:00-12:20
		pedstc12-1065	Maximum Power Per Current Control for Dynamic WPT Systems	12:20-12:40
		pedstc12-1088	Wireless Power Transfer System for Unmanned Aerial Vehicle	12:40-13:00
		pedstc12-1142	A Primary Side CCS-MPC Controller for Constant Current/Voltage Charging Operation of Series-Series Compensated Wireless Power Transfer Systems	13:00-13:20
		pedstc12-1062	Private Investors Participation in Long-Term Distribution Network Planning	13:20-13:40
		pedstc12-1168	Impact of Wind Turbines on Voltage Stability of Power Systems: Assessment and Improvement	13:40-14:00
M1 Multi-Level Inverters		pedstc12-1026	Hybrid Switched-Capacitor 9-Level Boost Inverter	14:00-14:20
		pedstc12-1046	A Boost Switched-Capacitor Multilevel Inverter Using Quasi-Resonant Inductor	14:20-14:40
		pedstc12-1047	Design and Analysis of a New Multilevel Inverter with Reduced Number of Switching Devices	14:40-15:00
		pedstc12-1057	Modeling and Simulation of Dual Z-source based Hybrid 2/3 Level Inverter	15:00-15:20
		pedstc12-1067	A Multilevel Converter Based on Cascaded Flying Cells with High Modularity and Single DC-link per Phase	15:20-15:40
		pedstc12-1074	Nested Neutral Point Clamped Converter Based DSTATCOM with Mixed-Sequence Reactive Current Compensation Capability	15:40-16:00
		pedstc12-1083	An H-Bridge Based Switched-Capacitor Boost Multi-Level Inverter	16:00-16:20
A2 Application of Power Electronic Converters		pedstc12-1127	Developed Experimental Analysis of Current THD of The CPV System Using Continuous Input-current Buck-Boost DC-DC Converter	14:00-14:20
		pedstc12-1160	Adapting Digital Twin Technology in Electric Railway Power Systems	14:20-14:40
		pedstc12-1150	Single Phase Active Power Filter Control Under Distorted Grid Voltage Using Quasi Open-Loop Grid-Synchronization Technique	14:40-15:00
		pedstc12-1100	Design and Comparative Finite Element and Thermal Analysis of 1-Phase Cylindrical Transformer for Low-Power Applications	15:00-15:20
		pedstc12-1103	Compatibility of Present 3kV DC and 2×25 kV AC High-Speed Railway Power Supply Systems Towards Future MVDC System	15:20-15:40
		pedstc12-1109	Three-Phase Modular PFC Converter in Continuous Conduction Mode	15:40-16:00
D3 DC-DC Converters		pedstc12-1068	ZVT Flyback with an Active Auxiliary Circuit	16:00-16:20
		pedstc12-1069	A Novel Zero Voltage Transition soft-switching PWM Boost Converter with low voltage stress	16:20-16:40
		pedstc12-1072	A Modular Two-Stage High Step-Down DC-DC Converter Using Frequency Multiplier Circuit for Datacenter Applications	16:40-17:00
		pedstc12-1073	A Soft Switching Interleaved High Step-down Converter with low voltage stress	17:00-17:20
		pedstc12-1086	A New Non-Isolated Single Switch High Step-up DC/DC Converter Based on Inductor Cells	17:20-17:40

		pedstc12-1090	A New High Conversion Ratio Transformerless Buck-Boost Converter with Continuous Input Current	17:40-18:00
R Resonant Converters and Energy Storage Systems		pedstc12-1107	Single Switch ZVS Transformerless Resonant High Step-up Converter	16:00-16:20
		pedstc12-1134	A Hybrid Control Approach for LLC Resonant Converter	16:20-16:40
		pedstc12-1136	Design and Analysis of an Isolated Single-Stage Resonant AC-DC Converter with PFC	16:40-17:00
		pedstc12-1162	A Novel SEPIC-Based Quasi-Resonant High Step-up DC/DC Converter with Soft-Switching	17:00-17:20
		pedstc12-1092	Estimation of CM Parasitic Capacitances in Front-end LLC Resonant DC-DC Converters	17:20-17:40
		pedstc12-1108	State-of-Charge Estimation of NMC-based Li-ion Battery Based on Continuous Transfer Function Model and Extended Kalman Filter	17:40-18:00
		pedstc12-1159	Estimation of Batteries Voltages and Resistances in Modular Multilevel Converter with Half-Bridge Modules Using Modified PSO Algorithm	18:00-18:20

Day 3: Thursday, 4 Feb. 2021 (16 of Bahman 99)

Day 3: Thursday, 4 February 2021 (16 of Bahman 1399)				
Session	**Chairs**	**Paper ID**	**Title**	**Time**
D4 DC-DC Converters		pedstc12-1105	A Common Ground Transformer-less High Gain DC-DC Buck-Boost Converter	8:00-8:20
		pedstc12-1112	A Single Switch High Voltage Gain DC-DC Converter Based on Coupled Inductor and Switched-Capacitor for Renewable Energy Systems	8:20-8:40
		pedstc12-1119	A Non-isolated High Step-up Soft Switching DC to DC Converter with Continues input Current and Low Switch Voltage Stress	8:40-9:00
		pedstc12-1125	A Continuous Input Current DC-DC Converter Based on Coupled Inductor for Renewable Energy Applications	9:00-9:20
		pedstc12-1129	A Dual Switch/Inductor Isolated High Voltage Gain Based on Voltage Lift	9:20-9:40
		pedstc12-1144	Analysis and Investigation of a Soft-Switched Synchronous Buck Converter	9:40-10:00
C2 Control of Power Electronic Converters		pedstc12-1064	A Study on Applying Interleaved Switching Pattern on a Double-Input/Single-Output Zeta Converter	8:00-8:20
		pedstc12-1066	Model-Free Predictive Combined Control for Three-Phase Grid Connected Voltage Source Converters	8:20-8:40
		pedstc12-1081	Virtual Voltage Vector Based Predictive Control of High Performance Modified Quasi-Z-Source Inverter with the Aim of Constant Common-Mode Voltage	8:40-9:00
		pedstc12-1084	Voltage Balancing of Capacitors Using Kalman Filter in Modular Multilevel Converters without Current Sensors	9:00-9:20
		pedstc12-1087	Improved Indirect Model Predictive Control for Modular Multilevel Converter	9:20-9:40
		pedstc12-1095	A Space Vector Modulation based Model Predictive Control for Low Frequency Operation of Nested Piloted NPC	9:40-10:00
M2 Multi-Level Inverters		pedstc12-1089	Novel switched-capacitor-based multilevel inverter topology for renewable energy	10:00-10:20
		pedstc12-1091	A Thirteen-Level Flying Capacitor based Single-Phase Inverter with Self-Balancing Capability	10:20-10:40
		pedstc12-1116	Staircase Selective Harmonic Elimination in Multilevel Inverters to Achieve Wide Output Voltage Range	10:40-11:00
		pedstc12-1152	A Novel Boost Fifteen-Level Asymmetrical Flying-Capacitor Inverter with Natural Balancing of Capacitor Voltages	11:00-11:20
		pedstc12-1170	A New Multilevel Inverter: An Attempt to Reduce Power Components	11:20-11:40

		pedstc12-1181	A Novel H-Type MLI with the reduction in Power Electronic Devices	11:40-12:00
		pedstc12-1138	A New Hybrid Three-Phase Multilevel Inverter Devoted to Electric Drive with Constant Volt per Hertz Control	12:00-12:20
A3 Application of Power Electronic Converters		pedstc12-1128	Harmonic Reduction by Voltage Reinjection Strategy in 12-Pulse VSI for High Power Applications	10:00-10:20
		pedstc12-1130	Operation of the AC-AC Converter Based Dynamic Voltage Restorer in Weak Distribution Systems	10:20-10:40
		pedstc12-1161	A wide soft switching range Power factor correction Converter	10:40-11:00
		pedstc12-1167	More Electric Aircraft Fault Current Protection: A Review	11:00-11:20
		pedstc12-1094	Simple Innovative Method for Online Condition Monitoring of IGBTs in Back-to-Back Converters	11:20-11:40
		pedstc12-1133	Examination and Comparison of Thyristor and Gate-Controlled Series Capacitors Performance for the Voltage Stabilization of Sensitive Loads	11:40-12:00
E3 Electric Machines and Drives		pedstc12-1145	A New MPC-based Approach for Torque Ripple Reduction in BLDC Motor Drive	12:00-12:20
		pedstc12-1146	Robust Torque control of induction motor using STSM control	12:20-12:40
		pedstc12-1156	Proposing an Effective Armature Winding for a Small DC Motor using Sensitivity Analysis Based Algorithm	12:40-13:00
		pedstc12-1169	A Comprehensive Analysis of a Complementary-Rotor Doubly Salient Permanent Magnet Motor for High Torque Applications	13:00-13:20
		pedstc12-1018	Emulation of Direct-Drive Wind Energy Conversion Systems Based on Permanent Magnet Synchronous Generators	13:20-13:40
		pedstc12-1166	A 9-Switch 3-Level VSI-Based MPSC of PMSM Without Weighting Factors	13:40-14:00
D5 DC-DC Converters		pedstc12-1155	A Single-Switch Quadratic Boost with Stacked Zeta Converter	14:00-14:20
		pedstc12-1173	A New High Step-Up DC-DC Converter Based on Impedance Network	14:20-14:40
		pedstc12-1180	A Two-Phase Hybrid Switched-Inductor DC-DC Converter with High Voltage Conversion Ratio	14:40-15:00
		pedstc12-1149	Analysis of a High-efficient Step-Up Converter with ZVS Operation	15:00-15:20
		pedstc12-1005	Hybrid Control for a Boost DC-DC Converter with Average Dwell Time	15:20-15:40
		pedstc12-1135	A Comprehensive Analysis and Modeling of The Bidirectional Three-Level DC-DC Converter with Auxiliary Control Scheme for Balancing Voltages of Its Capacitors	15:40-16:00
C3 Control of Power Electronic Converters		pedstc12-1157	A Hybrid SMC Strategy for Sequential Switching Shunt Regulator	14:00-14:20
		pedstc12-1143	Convertor mechanism scheduling by type-2 fuzzy approach for PV/battery/Fuel systems	14:20-14:40
		pedstc12-1096	Improvement of the Railway Power Flow Controller's Performance Using Sliding Mode Control Method	14:40-15:00
		pedstc12-1118	Hamiltonian Energy-Based Sliding Mode Control Approach for a Multi-port Bidirectional EV Charger via Zero Dynamic	15:00-15:20
		pedstc12-1158	DC Voltage Drop Compensation in Automotive Drives by Finite Set Model Predictive Control	15:20-15:40
		pedstc12-1124	Performance Improvement of Photovoltaic Emulator Using Lambert W Model and Fractional Order PI Controller	15:40-16:00