The 13th Power Electronics & Drives:
Systems and Technologies Conference (PEDSTC 2022)
1-3 Feb. 2022, Shahid Beheshti University, Tehran, Iran

Poster Session I: 1 February 2022/ 14:00-15:30
Location: Class 1
Topic: New Converter Topologies

Paper ID	Time	Title	Authors	Type of Presentation
1010	14:00-14:05	A New PV/FC/Battery DC-DC Converter	Amin Alizadeh Asl - Ramin Alizadeh Asl - Seyed-Hossein Hosseini	Poster
1092	14:05-14:10	A Novel High Voltage Gain Quasi-Resonant Step-up DC/DC Converter with Soft-Switching	Mohammad Shahabi - Amir Khorsandi - Seyyed Hamid Fathi	Poster
1100	14:10-14:15	A Quadratic Boost Converter Suitable for Photovoltaic Solar Panel	Saeed Mahdizadeh - Alireza Tavakoli - Ebrahim Afjei	Poster
1006	14:15-14:20	An Asymmetrical T-Type Boost Multilevel Inverter Topology	Kavian Kamalinejad - Hossein Iman-Eini	Poster
1013	14:20-14:25	A New Extendable Multi-Input Multi-Output DC-DC Converter Suitable for Renewable Energies	Amin Alizadeh Asl - Ramin Alizadeh Asl - Seyed Hossein Hosseini	Poster

1048	14:25-14:30	An Interleaved High Step-Up Dual-Input Single-Output DC-DC Converter for Electric Vehicles	Mohammad Fazeli-Hasanabadi - Aran Shoaei - Karim Abbaszadeh - Hesamodin Allahyari	Poster
1071	14:30-14:35	Integrated Buck-Zeta Converter	Mahdi Ghavaminejad - Ebrahim Afjei - Masoud Meghdadi	Poster
1072	14:35-14:40	A Novel Half-Full-Bridge Split-Capacitor DC-DC Converter Based On Dual-Active-Bridge Topology	Amir Abbas Aghajani - Navid Zare Kashani - Mojtaba Eldoromi - Ali Akbar Moti Birjandi	Poster
1111	14:40-14:45	Developed Hybrid Quasi Z-Source Inverter Based on Capacitor and Diode Cells: Analysis and Implementation	Sara Laali - Ali Mobtaker Sarayi	Poster
1134	14:45-14:50	A Non-isolated Buck-Boost DC–DC Converter With Continuous Input Current and Wide Conversion Ratio Range for Photovoltaic Applications	Babak Allahverdinejad - S. Alireza Modaberi - Ali Ajami	Poster
1142	14:50-14:55	A New Cubic Transformerless Converter For Applying in Renewable Applications	Saeed Mahdizadeh - Seyyed Mohammad Kalami Alhashem - Hossein Kazemi Kargar	Poster
1148	14:55-15:00	A High Voltage Gain Boost Converter with the Reduced Number of Switches Using the developed Switched Inductor and Capacitor Structure	Mohammad Hamidi - Mohsen Hamzeh - Morteza Naderlooei - Mohsen Zargarzadeh - Ebrahim Afjei	Poster

1164	15:00-15:05	A Novel Sensorless Multilevel Inverter with Voltage Doubling Capability	Ali Azimi - Aryorad Khodaparast - Milad Rasouli - Jafar Adabi	Poster
1094	15:05-15:10	Voltage Reinjection vs PWM: a Comprehensive Comparison to Improve the Harmonic situation	Saeed Najafpour - Reza Ghandehari	Poster
1005	15:10-15:15	A Cubic Transformer-less DC-DC Converter with Continuous Input Current: Mathematical model, Simulation, and Experimental	Maryam Tarighat Monfared - Hossein Gholizadeh - Seyed Mohammad Kalami - Saeed Amini - Seyyed Amir Ata Afjei - Seyyed Ebarahim Afjei	Poster
1097	15:15-15:20	Dual-Output Interleaved DC-DC Converter	Sareh Daneshgar - Darioush Alizadeh - Ebrahim Babaei	Poster
1079	15:20-15:25	A Modified Zeta DC-DC Converter with Higher Voltage Gain Besides Low Value of the Normalized Current Stresses	Maryam Tarighatmonfared - Hossein Gholizadeh - Saeed Amini - Seyyed Mohammad Kalami - Seyed Amir Ata Afjei - Seyed Ebrahim Afjei	Poster
1088	15:25-15:30	Analyze and Implementation of High Gain DC-DC Topology Recommended for Renewable Power Generation	Hamid Radmanesh - Hamidreza Jashnani - Saeed Pourjafar - Mohammad Maalandish	Poster

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Poster Session II: 1 February 2022/ 14:00-15:30
Location: Class 2
Topic: Control of Power Converters

Paper ID	Time	Title	Authors	Type of Presentation
1080	14:00-14:05	Unconditional Control of NPC Inverter by a Modified Virtual Space Vector Modulation	Arash Koshooei - Mohammad Haei - Alireza Khoshsaadat	Poster
1002	14:05-14:10	Reactive Power-Sharing in Group-based AC Islanded Micorgids under Switching Topology	Hanieh Tabatabaei - Farzaneh Abdollahi - Heidar Ali Talebi	Poster
1170	14:10-14:15	Fast Active Balancing Circuit for Li-ion Battery Modules using a DC-DC Bipolar Converter	Mohammad Abareshi - Abdolsalim Satlekhi - Mohsen Hamzeh - Shahrokh Farhangi	Poster
1165	14:15-14:20	Robust control of DC-DC converter supplying constant power load with Finite-Set Model Predictive Control	Hoda Sorouri - Mostafa Sedighizadeh	Poster
1070	14:20-14:25	An Optimized Hybrid Model-Based Unified-Phase-Shift Control Strategy for Single-Phase Dual Active Bridge DC-DC Converter	Amir Abbas Aghajani - Faramarz Faraji - Ali Akbar Moti Birjandi - Amer M. Y. M. Ghias	Poster

1045	14:25-14:30	IoT Based Condition Monitoring and Control of Induction Motor Using Raspberry Pi	Nastaran Dehbashi - Mohsen SeyyedHosseini - Ali Yazdian Varjani	Poster
1106	14:30-14:35	A Novel Control Strategy of MMC-HVDC System under SLG and PTG Fault Conditions	Milad Samady Shadlu	Poster
1169	14:35-14:40	Implementation and analysis of SVM modulation method in linear and over-modulation zones	Milad Bagheri Sadr - Davood Arab Khaburi - Morteza Jamei - Hamid Radmanesh	Poster
1180	14:40-14:45	Discrete-Time Modeling of Dual Active Bridge Converter Benefiting Extended Phase Shift Modulation Based on Generalized Averaged Mode	Alireza Amirikhorhe - Mohammad Tavakoli Bina - Reza Amjadifard	Poster
1151	14:45-14:50	A High Performance Harmonic Detection Method Based on Wavelet Transform for Shunt Active Power Filter with Experimental Verification	Amir Moradi - Mohammad Pichan	Poster
1146	14:50-14:55	Design of photovoltaic inverter with active filter capability	Fatemeh Gerami - Mehdi Saradarzadeh	Poster
1168	14:55-15:00	Ultra-Wide Voltage Range Control of DC-DC Full-Bridge Converter with Hysteresis Controller	Majid Ghasemi - Amin Honarbakhsh - Mehdi Saradarzadeh - Mohsen Hamzeh	Poster

1189	15:00-15:05	An Enhanced DSP-Based Control Modeling and Implementation of Combinational Non-inverting High Step Up-Step Down Dc-Dc Converter	Mohsen Karimi - Mohammd Pichan - Mohammad Farsijani	Poster
1041	15:05-15:10	Performance Improvement of Low Voltage Ride-Through Using Optimal Structure in DFIG	Mahdi Jafari harandi - Alireza Hosein Pour - Bahram Jahanbakhshi Pordanjani - Mohammad Tavakoli Bina	Poster
1050	15:10-15:15	Open-circuit Fault Diagnosis Strategy For Modular Multilevel Converter Semiconductor Power Switches	Mohsen Rahmani Haredasht - S. Masoud Barakati - Saeed Yousofi Darmian - Mohammad Bagheri Hashkavayi - Vahid Barahouei	Poster
1128	15:15-15:20	Induction Balance Metal DetectorUsing Multi-Level Chirp Signal	Ehsan Najafi - Saeed Hasanzadeh - Koroush Kheradmandan	Poster
1019	15:20-15:25	A High Voltage Power Supply for Photomultiplier Tube Applications	Mohammad-Hadi Zare - Yaser Karimi	Poster

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Poster Session III: 1 February 2022/ 14:00-15:30
Location: Class 3
Topic: Machine design and drives

Paper ID	Time	Title	Authors	Type of Presentation
1025	14:00-14:05	A High-Accuracy Tow-Stage Deep Learning-Based Resolver to Digital Converter	MohammadSadegh Khajuee Zadeh - Mahdi Emadaleslami - Zahra Nasiri-Gheidari	Poster
1065	14:05-14:10	Vibration and Noise Analysis of Squirrel Cage Induction Motors with Double Non-Skewed Rotor Structure	Amir Darjazini - Mansoure Karimi - Mohammad Hosein Saeedinia - Mohsen Cheraghi	Poster
1064	14:10-14:15	Torque Ripple Minimization for a Switch Reluctance Motor Using the Ant Lion Optimization Algorithm	Tohid Sharifi - Vahid Mirzaei Khales - Mojtaba Mirsalim	Poster
1091	14:15-14:20	Speed Control of Brushless Doubly Fed Induction Machine Drive Based on Model Reference Adaptive System	Mohammad Etemadi - Hamidreza Mosaddegh Hesar - Mojtaba Ayaz khoshhava	Poster
1135	14:20-14:25	Robust Deadbeat Predictive control for SynRel Motor Based on Hyperbolic Tangent Observer	Mahdi S. Mousavi - Behnam Nikmaram - Zahra Khalaji - S. Alireza Davari - Cristian Garcia - Jose Rodriguez	Poster

1149	14:25-14:30	Performance Investigation of Initial Rotor Position Estimation Methods in Synchronous Reluctance Motors	Behnam Nikmaram - Hamidreza Pairo - Abolfazl Nassaji	Poster
1003	14:30-14:35	An Improved Predictive Current Control Strategy of Linear Induction Motor Based on Ultra-Local Model and Extended State Observer	Arash Mousaei - Mohammad Bagher Bannae Sharifian - Naghi Rostami	Poster
1154	14:35-14:40	Integration of E-bus Opportunity Chargers to the Voltage-Stabilized DC Railway Grid	Leila Shams Ashkezari - Hamed Jafari Kaleybar - Morris Brenna	Poster
1155	14:40-14:45	A SOSM Control for Induction Motor Using ANN-based Sensorless Speed and Flux Estimation under Parametric Uncertainty in FOC Control Method	Ramin Nahavandi - Mehdi Asadi - Ali Torkashvand	Poster
1063	14:45-14:50	A New Modulation Technique for Improving the Performance of Two-Phase Cascaded H-bridge Multilevel Inverter	Omid Zolfagharian - Mohammad Farsijani - Esmaeil Keyvanloo - Mohammad Tavakoli bina	Poster
1113	14:50-14:55	T-type Nested Neutral Point Clamped (T-NNPC) Multilevel Inverter: Identification and Diagnosis of IGBT Switch Failures	Mahyar Hassanifar - Milad Shamouei-Milan - Yousef Neyshabouri	Poster
1136	14:55-15:00	An Open-Circuit Fault Detection and Localization Scheme for Switch Failures in Modular Multilevel Converter Based on Arm Voltage Analysis	Mahdi Aslanian - Hossein Iman-Eini - Yousef Neyshabouri	Poster

1121	15:00-15:05	Wireless Power Transfer Systems: The Coupling Factor Impact on Different Compensation Topologies	Saman Rezazade - Reza Naghash - Seyed Ebrahim Afjei	Poster
1051	15:05-15:10	Comparison of different controllers for wireless charging system in AUVs	Ahmad Siroos - Mostafa Sedighizadeh - Ebrahim Afjei - Alireza Sheikhi Fini	Poster
1133	15:10-15:15	A Novel Analysis of the Wireless Battery Chargers For Electrical Vehicle Applications with Variable Coupling Coefficient	Pooriya Zandi - Reza Beiranvand	Poster
1159	15:15-15:20	Six Degrees of Freedom Wireless Power Transfer by Crossed Dipole Transmitting Coils and the Minimum Number of Receiving Coils	Alireza Eikani - Behnam M. Mosammam - Mojtaba Mirsalim - Amir Khorsandi	Poster
1007	15:20-15:25	Comparison of Halbach Array configurations in Ferrite-based High-speed Permanent Magnet Synchronous Machine	Mohammad Taghavi - Omolbanin Taqavi - Seyyed Mehdi Mirimani	Poster

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Poster Session IV: 1 February 2022/ 14:00-15:30
Location: Class 4
Topic: Power Electronics for Renewable Energy Systems

Paper ID	Time	Title	Authors	Type of Presentation
1078	14:00-14:05	Partial Two-Stage Four-level Inverter for Grid-tied PV Application	Hossein Khoun-Jahan - Amin Mohammadpour Shotorbani - Mohammad Reza Rostami Noshahr - Mansour Peimani - Mehran Sabahi - Frede Blaabjerg	Poster
1062	14:05-14:10	A Transformerless Switched-Capacitor Converter Applicable for Photovoltaic Systems	Soheil Hasani - Reza Beiranvand	Poster
1060	14:10-14:15	A Single-Switch High Step-Up DC–DC Converter with Low Input Current Ripple for Renewable Energy Applications	Mir Yahya Hassani - Mohammad Maalandish - Seyed Hossein Hosseini	Poster
1178	14:15-14:20	A Data-driven PI Control of Grid-Connected Voltage Source Inverters Interfaced with LCL Filter	Kamran Moradi - Hemin Sheikhahmadi - Pourya Zamani - Qobad Shafiee - Hassan Bevrani	Poster
1027	14:20-14:25	PMSG-Based Stand-alone Wind Energy Conversion System Using Quasi Y-Source Inverter and Battery Storage	Amirhossein Rajaei - Sajjad Yazdani - Ehsan Ebadi	Poster

1028	14:25-14:30	Control investigation of a modular system using two-loop control in renewable energy systems	Mohammad Afkar - Roghayeh Gavagsaz-Ghoachani - Matheepot Phattanasak - Serge Pierfederici	Poster
1075	14:30-14:35	Low Voltage Ride Through Improvement of Machine Side and Grid Side Converters of PMSG-Wind Turbine Based on Sliding Mode Control	Mojtaba Feyzi - Sam Roozbehani - Sahand Ghaseminejad Liasi	Poster
1096	14:35-14:40	Data-driven Predictive Control of Buck Converters Under Load and Input Voltage Uncertainties	Kamran Moradi - Pourya Zamani - Qobad Shafiee	Poster
1162	14:40-14:45	AC Equivalent Circuit of Quasi Y-Source Converter Using by Averaged-Switch Model	Sadjad Shafiei - Aydin Mehdizadeh - Amir Khorsandi	Poster
1172	14:45-14:50	Five-Level NPC Based Grid-Tied Inverter with Voltage Boosting Capability and Elimnated Leakage Current	Naser Vosoughi Kurdkandi - Milad Ghavipanjeh Marangalu - Tala Hemmati - Ali Mehrizi-Sani - Saeed Rahimpour - Ebrahim Babaei	Poster
1175	14:50-14:55	Sensorless Virtual-Flax Direct Power Control of Grid Connected Converters under Unbalanced Weak Grid Conditions	Pooriya Jamallo - Sadegh Vaez-Zadeh - Alireza Jabbarnejad	Poster
1160	14:55-15:00	Increasing of Harvested Power in DMPPT-based PV Syetems by a New Scan Method	Alireza Gharechahi - Amirhossin Jabbarpoor Shahrezayi - Mohsen Hamzeh - Ebrahim Afjei	Poster

1095	15:00-15:05	Design of a Combined Mechanical and Electrical Damper to Reduce Contact Speed at the Moment of Impact to the Endpoint	Seyed Hamid Khalkhali - Ali Asghar Razi Kazemi - Habib-o-llah Qasem-Nezhad	Poster
1104	15:05-15:10	Finite Control Set Model Predictive Control for Asymmetric Cross-Switched Multilevel Inverter Based STATCOM	Faruq Abdollahi - Yousef Neyshabouri - Mohammad Farhadi-Kangarlu	Poster
1173	15:10-15:15	Fuzzy Logic-based Control of D-SSSC under nonlinear conditions of power system	Mohammad Rastegar - Mehdi Saradarzadeh - Shahrokh Farhangi	Poster