

Active front-end DC grid-forming converter design with power balancing capability

Verbytskyi, Ievgen; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144688>

Active redundancy in isolated DC-DC converters: A modular solution for fault tolerance

Shirodkar, Aditya; Banavath, Satish Naik; Yadav, Neelesh; Chub, Andrii; Mandrioli, Riccardo 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 5 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027280>

Adaptive chaotic class topper optimization to solve Non-convex CHPED problems in power systems

Gupta, Pradeep Kumar; Tuttelberg, Kaur; Kilter, Jako 2024 IEEE PES Innovative Smart Grid Technologies - Asia (ISGT Asia) 2024 / 6 p. <https://doi.org/10.1109/ISGTAsia61245.2024.10876314>

An adaptive class topper optimization for scheduling thermal generation with cubic fuel cost function

Gupta, Pradeep Kumar; Gupta, Anju Kumari; Tuttelberg, Kaur; Kilter, Jako 2025 15th International Conference on Power, Energy, and Electrical Engineering (CPEEE) 2025 / p. 195-199 <https://doi.org/10.1109/CPEEE64598.2025.10987339>

Additively manufactured spoke-type permanent magnet rotors : Solutions to multidisciplinary design challenges and comparison with traditional design

Ajamloo, Akbar Mohammadi; Tiismus, Hans; Kallaste, Ants; Ibrahim, Mohamed N.; Sergeant, Peter IEEE transactions on energy conversion 2025 / 12 p. <http://doi.org/10.1109/TEC.2025.3619827> <https://ieeexplore.ieee.org/document/11197694>

Analysis of a reconfigurable non-isolated DC-DC converter for DC microgrid applications

Yadav, Vinod Kumar; Chub, Andrii 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://ieeexplore.ieee.org/document/11144731> <https://doi.org/10.1109/ICDCM63994.2025.11144731>

A benchmark of DC-DC converters for DC fast charging stations of electric vehicles

Mathew, Honey Mol; Arena, Gabriele; Chub, Andrii; De Carne, Giovanni; Vinnikov, Dmitri; Lukianov, Mykola 2024 9th IEEE Workshop on the Electronic Grid (eGRID) 2024 / 6 p <https://doi.org/10.1109/eGRID62045.2024.10842879>

Capacitive vs Inductive Coupling Based DC-DC Converter Operating in MHz Switching Frequency Range

Pourjafar, Saeed; Mohseni, Parham; Husev, Oleksandr; Strezelecki, Ryszard; Matiushkin, Oleksandr 2025 IEEE Applied Power Electronics Conference and Exposition (APEC) 2025 / p. 2173-2178 <https://doi.org/10.1109/APEC48143.2025.10977156>

Comparative evaluation of the air core magnetic design for MHz+ switching frequency

Matiushkin, Oleksandr; Pakhaliuk, Bohdan; Gutierrez-Escalona, Javier; Romero-Cadaval, Enrique; Husev, Oleksandr; Zakis, Janis Applied sciences 2025 / art. 8820 <https://doi.org/10.3390/app15168820>

Comparative power quality analysis of right and left shunt UPQC topologies

Kumar, Pradeep; Gupta, Pradeep Kumar Proceedings of the International Conference on Systems, Control and Automation (ICSCA 2023) 2025 / p. 607-624 https://doi.org/10.1007/978-981-97-7384-8_52

Comparative Study of Advanced Heatsink Structures for Improved Thermal Performance in Axial Flux Motors

Sarap, Martin; Singh, Shalini; Kallaste, Ants; Qureshi, Ahmed Jawad; Tiismus, Hans; Vaimann, Toomas; Shams Ghahfarokhi, Payam IEEE Access 2025 / p. 100850-100860 <https://doi.org/10.1109/ACCESS.2025.3577289>

Comprehensive Diagnostic Assessment of Inverter Failures in a Utility-Scale Solar Power Plant : A Case Study Based on Field and Laboratory Validation

Kull, Karl; Asad, Bilal; Naseer, Muhammad Usman; Kallaste, Ants; Vaimann, Toomas Sensors 2025 / art. 3717 <https://doi.org/10.3390/s25123717>

A Comprehensive Study of Partial Discharge Based Extrinsic Aging in Nomex Insulation Films : Modeling, Simulation and Measurement

Choudhary, Maninder; Shafiq, Muhammad; Bhattarai, Abhinav; Kiitam, Ivar; Taklaja, Paul; Palu, Ivo Electric Power Systems Research 2025 / art. 111663 <https://doi.org/10.1016/j.epsr.2025.111663>

Conducted EMI emission evaluation considerations for test site and in-situ evaluation of DC microgrid supplied power converters

Kütt, Lauri; Daniel, Kamran; Sharma, Hetal; Parker, Martin; Chub, Andrii 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144729>

Control of multiport partial power converters for PV-battery systems integration in DC microgrids

Yadav, Neelesh; Mitra, Tuhin; Makkieh, Ahmad; Chub, Andrii 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144705>

A coupled inductor-based SSCB with reduced components for DC microgrid protection

Pithanisetty, Prasanth; Dsa, Daniel; Banavath, Satish Naik; **Carvalho, Edivan Laercio**; De Carne, Giovanni; **Vinnikov, Dmitri** IEEE transactions on power electronics 2025 / p. 11428-11441 <https://doi.org/10.1109/TPEL.2025.3551740> [Article at Scopus](#)

Curved Airgap Topology : A Promising Strategy for Enhancing Axial-Flux Machine Performance Metrics

Naseer, Muhammad Usman; Kallaste, Ants; Vaimann, Toomas; Asad, Bilal International Conference on the Computation of Electromagnetic Fields (COMPUMAG) 2025

Cycle-skipping technique based on sigma-delta modulation in series resonant DC transformer

Pittala, Lohith Kumar; **Chub, Andrii**; Sidorov, Vadim; **Khan, Salman**; Ricco, Mattia; Mandrioli, Riccardo 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <http://ieeexplore.ieee.org/document/11144699>
<https://doi.org/10.1109/ICDCM63994.2025.11144699>

Data-driven quantification and aggregation of demand-side flexibility for symmetrical bidding in energy balancing markets

Shahid, Arqum; Ahmadiyahangar, Roya; Kilter, Jako; Rosin, Argo Electric Power Systems Research 2025 / art. 111823
<https://doi.org/10.1016/j.epsr.2025.111823>

Deep Transfer Learning Approach Using Filtered Time-Frequency Representations of Current Signals for Bearing Fault Detection in Induction Machines

El Bouharrouti, Nada; Nemat Saberi, Alireza; Hussain Khan, Muhammad Dayyan; **Kudelina, Karolina; Naseer, Muhammad Usman**; Belahcen, Anouar IET Electric Power Applications 2025 <https://doi.org/10.1049/elp2.70074>

Design and development of solid state circuit breaker with residual current protection for residential prosumer DC microgrids

Jalakas, Tanel; Chub, Andrii; Roasto, Indrek; Vinnikov, Dmitri; Kurnitski, Jarek Proceedings of the Estonian Academy of Sciences 2025 / p. 281-290 <https://doi.org/10.3176/proc.2025.2S.02>

Design and implementation of dual-mode LLC resonant converter for charging 400 V and 800 V onboard plug-in electric vehicles

Vinusha, Bussa; Kalpana, R.; Kishan, Dharavath; **Chub, Andrii** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027270>

A dual-input partial-power boost half-bridge DC-DC converter with integrated transformer for efficient battery integration in DC microgrids

Yadav, Neelesh; Chub, Andrii IECON 2025 – 51st Annual Conference of the IEEE Industrial Electronics Society 2025 / 5 p
<https://ieeexplore.ieee.org/document/11221250> <https://doi.org/10.1109/IECON58223.2025.11221250>

Dual-purpose dc-dc/ac PWM modular power converter as dual-output hybrid converter

Roncero-Clemente, Carlos; Gutierrez-Escalona, Javier; **Matiushkin, Oleksandr**; Husev, Oleksandr; Romero-Cadaval, Enrique; Fernao Pires, V. Renewable energy and power quality journal 2025 / p. 183-187 <https://doi.org/10.52152/4563>

Dual-purpose dc-dc/ac PWM modular power converter as grid-forming unit in a droop-controlled ac nanogrid

Roncero-Clemente, Carlos; Escalona, Javier-Gutiérrez; **Matiushkin, Oleksandr**; Pires, V. Fernão; Milanés-Montero, María Isabel; **Romero-Cadaval, Enrique** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p <https://doi.org/10.1109/IECON55916.2024.10906022> [Conference proceedings at Scopus](#)
[Article at Scopus](#)

Dynamic Time Warping Technique for Condition Monitoring of High Voltage Circuit Breakers

Asefi, Sajjad; Kilter, Jako 2025 15th International Conference on Power, Energy, and Electrical Engineering (CPEEE) 2025 / p. 38-42 <https://doi.org/10.1109/CPEEE64598.2025.10987408>

Effect of Bulk Capacitor on Harmonics of Energy-Efficient Devices

Daniel, Kamran; Kütt, Lauri; Lehtonen, Matti; **Shabbir, Noman; Iqbal, Muhammad Naveed**; Martins, Joao; Simson, Päivo IEEE Access 2025

Effect of parasitic components in voltage drop and design consideration of the switched impedance inverter

Hasan Babayi Nozadian, Mohsen; Vinnikov, Dmitri; Mashinchi Maheri, Hamed IET power electronics 2025 / p. 1-15
<https://doi.org/10.1049/pel2.70024> <https://ietresearch.onlinelibrary.wiley.com/doi/full/10.1049/pel2.70024>

Electrical aging and lifetime study of nomex insulation influenced by partial discharges

Choudhary, Maninder; Kiitam, Ivar; Palu, Ivo Electric power systems research 2025 / art. 112000
<https://doi.org/10.1016/j.epsr.2025.112000>

Electrical drive : performance, design and control

Vodovozov, Valery 2025 <https://www.morebooks.shop/shop-ui/shop/product/9786209082733>

Energy in Conventional Warfare

Jakson, Heiki; Byrne, James Brendan; Cecchetti, Emanuele Nicola; Ciampor, Jan; Hajek, Jaroslav; Hausler, Maximilian 2016
<https://www.enseccoe.org/publications/energy-in-conventional-warfare/>

Energy management implementation approach for droop-controlled residential DC nanogrids

Hasan, Sayeed; Chub, Andrii; Yadav, Neelesh; Blinov, Andrei; Kurnitski, Jarek; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144665>

Energy-efficient autonomous systems - capacity building cross-border educational initiative

Kunicina, Nadezda; Plonis, Darius; Bruzgiene, Rasa; Rassölkin, Anton 2025 IEEE 12th Workshop on Advances in Information, Electronic and Electrical Engineering (AIEEE) 2025 / 5 p <https://doi.org/10.1109/AIEEE66149.2025.11050877>

Enhanced control strategy for three-level T-type converters in hybrid power-to-X systems

Sassonker Elkayam, Moria; Vinnikov, Dmitri Applied sciences 2025 / art. 2409 <https://doi.org/10.3390/app15052409>

Enhancement of residential PV energy storage system by supercapacitor battery – high spatial resolution data analysis

Rogowski, Szymon; Hasan, Sayeed; Chub, Andrii; Sibinski, Maciej Proceedings of the Estonian Academy of Sciences 2025 / p. 269-280 <https://doi.org/10.3176/proc.2025.2S.01>

Evaluating the Power Mismatch Dynamics of Deeply Renovated Apartment Buildings with On-site PV Panels in Estonia

Olayiwola, Tofopefun Nifise; Thalfeldt, Martin; Kuusk, Kalle; Blinov, Andrei Clima 2025 : 15th REHVA HVAC World Congress 2025

Exploring the Landscape of End User Energy Flexibility: A Systematic Review of Technologies, Challenges, and Opportunities

Maask, Vahur; Agabus, Hannes; Tiismus, Hans; Astapov, Victor; Ahmadiyahangar, Roya; Korõtko, Tarmo; Rosin, Argo IEEE Access 2025 / p. 146579-146602 <https://doi.org/10.1109/ACCESS.2025.3599989> <https://ieeexplore.ieee.org/document/11129056>

Fault detection and protection strategy for multi-terminal HVDC grids using wavelet analysis

Kaur, Jashandeep; Jayasooriya, Manilka; Iqbal, Muhammad Naveed; Daniel, Kamran; Shabbir, Noman; Peterson, Kristjan Energies 2025 / art. 1147 <https://doi.org/10.3390/en18051147>

FCB-MPC-based cycle skipping control for soft-switched isolated AC-DC converter with reduced inductors in PFC stage

Mohseni, Parham; Husev, Oleksandr; Vinnikov, Dmitri; Kasper, Matthias; Deboy, Gerald; Kurdkandi, Naser Vosoughi 2025 IECON – 51st Annual Conference of the IEEE Industrial Electronics Society 2025 / 6 p
<http://doi.org/10.1109/IECON58223.2025.11221499>

Feasibility Study of Snow Removal from PV Module Using Universal Power Electronic Interface

Chauhan, Sachin; Chub, Andrii; Hasan, Sayeed; Lavrov, Artur; Kurnitski, Jarek; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p

Forecasting Corona Losses on High Voltage Transmission Lines Using Machine Learning

Gupta, Pradeep Kumar; Tuttelberg, Kaur; Kilter, Jako IEEE transactions on power delivery 2025 / p. 2696-2705
<https://doi.org/10.1109/TPWRD.2025.3593923>

From ADAS to Material-Informed Inspection : Review of Hyperspectral Imaging Applications on Mobile Ground Robots

Valme, Daniil; Rassölkin, Anton; Liyanage, Dhanushka Chamara Sensors 2025 / art. 2346 <https://doi.org/10.3390/s25082346>
<https://www.mdpi.com/1424-8220/25/8/2346>

Full SiC three-level T-type quasi-Z source inverter as grid-forming unit in islanded nanogrid

Gutiérrez-Escalona, Javier; Roncero Clemente, Carlos; Matiushkin, Oleksandr; González Romera, Eva; Pires, V. Fernão; Romero Cadaval, Enrique IET renewable power generation 2025 / art. e70051 <https://doi.org/10.1049/rpg2.70051>

High-efficient switched-capacitor step-up DC–DC converter with partial power processing

Toebe, Ademir; Bulegon Löbler, Pedro Henrique; Dos Santos, Niwton Gabriel Feliciani; Beltrame, Rafael Conatto; Schuch, Luciano; Rech, Cassiano IECON 2025 – 51st Annual Conference of the IEEE Industrial Electronics Society 2025 / 6 p
<https://doi.org/10.1109/IECON58223.2025.11221931>

Holistic cyber-physical approach for the performance evaluation of communication and control systems in DC microgrids

Véliz, Antonio; Contreras, René; Riffo, Sebastián; Restrepo, Carlos; Garcés-Ruiz, Alejandro; Chub, Andrii; González-Castaño, Catalina; Flores-Bahamonde, Freddy IEEE journal of emerging and selected topics in power electronics 2025
<https://doi.org/10.1109/JESTPE.2025.3564851> <https://ieeexplore.ieee.org/document/10977842>

Hybrid Attention-Based LSTM and XGBoost Model for Short-Term Residential Load Forecasting

Shabbir, Noman; Shahid, Arqum; Daniel, Kamran; Jawad, M.; Rosin, Argo; Martins, Joao 2025 IEEE the 13th International

Hybrid-driven digital twin modelling framework for an EV propulsion drive system

Ibrahim, Mahmoud; Rassölkin, Anton IET Intelligent Transport Systems 2025 / art. e70099 <https://doi.org/10.1049/itr2.70099> [Scopus](#)

Implementation and performance evaluation of quantum-inspired clustering scheme for energy-efficient WSNs

Uthayakumar, Chindiyababy; Jayaraman, Ramkumar; **Raja, Hadi Ashraf; Daniel, Kamran** Sensors 2025 / art. 5872
<https://doi.org/10.3390/s25185872> <https://www.mdpi.com/3507118>

Integrating Attention-Based LSTM with XGBoost for Improved Residential DC Load Forecasting

Shabbir, Noman; Shahid, Arqum; Daniel, Kamran; Rosin, Argo; Kilter, Jako; Martins, Joao 2025 IEEE International Conference on Energy Technologies for Future Grids (ETFG) 2025

Isolated high step-up current-fed DC-DC converter with low input current ripple and wide full-soft-switching capability

Mohseni, Parham; Pourjafar, Saeed; Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri IEEE transactions on industry applications 2025 / 11 p <https://doi.org/10.1109/TIA.2025.3544985>

Kolmogorov-Arnold networks for algorithm design in battery energy storage system applications

Zequera, Rolando Antonio Gilbert; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants Energy Reports 2025 / p. 2664-2677
<https://doi.org/10.1016/j.egy.2025.02.002>

Modelling of magnetization processes of 3D-printed Fe-Si components by means of an artificial neural network implemented in a Finite Element Scheme

Stella, Marco; Faba, Antonio; Bertolini, Vittorio; Riganti-Fulginei, Francesco; Sabino, Lorenzo; Tiismus, Hans; Kallaste, Ants; Cardelli, Ermanno IEEE Open Journal of the Industrial Electronics Society 2025 / p. 1650-1662
<http://doi.org/10.1109/OJIES.2025.3620857> <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=11202631&tag=1>

Modern training courses increasing awareness of environmental protection

Veg, Lukas; Jelen, M.; Rassölkin, Anton; Stępien, M.; Zygmanski, Marcin Przegląd elektrotechniczny = Electrical review 2025 / p. 68-72 <https://doi.org/10.15199/48.2025.05.14> <http://pe.org.pl/articles/2025/5/14.pdf>

MPC based power management for off-grid photovoltaic hybrid inverters using Li-ion batteries and supercapacitors

Gonschorowski, E.; Cardoso, Rafael; Carvalho, Edivan Laercio; de Oliveira Stein, Carlos Marcelo; Carati, Emerson Giovanni; Denardin, Gustavo Weber; da Costa, Jean Patric 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p
<https://doi.org/10.1109/ICDCM63994.2025.11144663> [Conference at Scopus](#)

Multi-step ahead short-term residential DC load forecasting : A comparative study of NGBoost-based algorithms

Shabbir, Noman; Husev, Oleksandr; Hokmabad, Hossein Nourollahi; Daniel, Kamran; Jawad, Muhammad; Martins, Joao 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144710>

A neuro-fuzzy approach for broken rotor bar fault prediction in induction motors via current spectrum analysis

Raja, Hadi Ashraf; Vaimann, Toomas; Asad, Bilal; Kallaste, Ants; Sardar, Muhammad Usman 2025 IEEE Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED) : proceedings 2025 / 7 p
<https://doi.org/10.1109/SDEMPED53223.2025.11154194>

Neuro-fuzzy approach for fault prediction of mechanical bearing faults using vibration analysis

Shirokova, Veroonika; Kudelina, Karolina; Raja, Hadi Ashraf; Rjabtsikov, Viktor; Barashkova, Tatjana; Nutonen, Karle IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / p. 1-6 <https://doi.org/10.1109/IECON55916.2024.10905990> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Novel concept of universal AC/DC-DC onboard battery charger for electric vehicles

Mohseni, Parham; Husev, Oleksandr; Vinnikov, Dmitri; Kasper, Matthias; Deboy, Gerald 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144698>

Novel dual-purpose cost-effective forward-based micro-converter

Afshar, Hossein; Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144743>

Novel Interlinking Converter Approach for Islanded Hybrid Microgrids based on the Modular Dual-Purpose Power Converter

Gutiérrez-Escalona, Javier; Roncero-Clemente, Carlos; Husev, Oleksandr; Matiushkin, Oleksandr; Milanés-Montero, María Isabel; Romero-Cadaval, Enrique 2025 International Aegean Conference on Electrical Machines and Power Electronics & International Conference on Optimization of Electrical and Electronic Equipment 2025

A novel orbirect inductive coil structure for wireless inductive power transfer in electric vehicle battery charging applications

Kishan, Dharavath; Ghosh, Shubhankar; Chauhan, Shubhang; **Chub, Andrii** IECON 2025 – 51st Annual Conference of the IEEE Industrial Electronics Society 2025 / p. 1-5 <https://ieeexplore.ieee.org/document/11221497>
<https://doi.org/10.1109/IECON58223.2025.11221497>

Online learning-based coordination control of the interlinking converter in hybrid ac/dc microgrid

Gutierrez-Escalona, Javier; Roncero-Clemente, Carlos; **Matiushkin, Oleksandr**; Romero-Cadaval, Enrique; Gonzalez-Romera, Eva; Martins, Joao 2025 IECON – 51st Annual Conference of the IEEE Industrial Electronics Society 2025 / 6 p
<https://doi.org/10.1109/IECON58223.2025.11221287>

An Overview of Autonomous Parking Systems : Strategies, Challenges, and Future Directions

Olmos Medina, Javier Santiago; Maradey Lázaro, Jessica Gissella; **Rassölkin, Anton**; González Acuña, Hernán Sensors 2025 / art. 4328 <https://doi.org/10.3390/s25144328> <https://www.mdpi.com/1424-8220/25/14/4328>

P3R – Partial power post regulator for DC buildings application

Carvalho, Edivan Laercio; Chub, Andrii; Blinov, Andrei; Rathore, Akshay Kumar; **Vinnikov, Dmitri** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p
<https://doi.org/10.1109/IECON55916.2024.10905720> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Performance analysis of partial power converter in DC microgrid with active front-end converter

Yadav, Neelesh; Hasan, Sayeed; Galkin, Ilya; **Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144718>

Performance comparison of voltage-fed and current-fed series resonant converters for high step-up DC-DC applications

Khan, Salman; Chub, Andrii; Vinnikov, Dmitri 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027290>

Performance investigation of active, semi-active and passive suspension using quarter car model

Samaroo, Kyle; Awan, Abdul Waheed; Marimuthu, Siva; Iqbal, Muhammad Naveed; **Daniel, Kamran; Shabbir, Noman** Algorithms 2025 / art. 100 <https://doi.org/10.3390/a18020100>

Performance optimization of a high-speed permanent magnet synchronous motor drive system for formula electric vehicle application

Ibrahim, Mahmoud; Järg, Oskar; Seppago, Raigo; Rassölkin, Anton Sensors 2025 / art. 3156 <https://doi.org/10.3390/s25103156>
<https://www.mdpi.com/1424-8220/25/10/3156>

Possible legal forms for energy communities (EC)

Metsik, Merilin; Eynizada, Narmin; Korötko, Tarmo 2025 13th International Conference on Smart Grid (icSmartGrid) 2025 / p. 230-237 <https://doi.org/10.1109/icSmartGrid66138.2025.11071819>

Power quality improvement in DG based distribution systems : A review

Nabian Dehaghani, Mitra; Korötko, Tarmo; Rosin, Argo Renewable and Sustainable Energy Reviews 2026 / art. 116184
<https://doi.org/10.1016/j.rser.2025.116184> <https://www.sciencedirect.com/science/article/pii/S1364032125008573>

Protection and control implementation for bidirectional step-up/down partial power converter for droop-controlled DC microgrids

Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; Vinnikov, Dmitri IEEE transactions on industry applications 2025 / 11 p <https://doi.org/10.1109/TIA.2025.3561767>

PV Energy Communities in Residential Apartments : Technical Capacities and Economic Viability

Mutule, Anna; Borscevskis, Olegs; **Astapov, Victor**; Antoskova, Irina; Carroll, Paula; Kairisa, Evita Sustainability 2025

QSEER-quantum-enhanced secure and energy-efficient routing protocol for wireless sensor networks (WSNs)

Uthayakumar, Chindiyababy; Jayaraman Ramkumar; **Raja, Hadi Ashraf; Shabbir, Noman** Sensors 2025 / art. 5924
<https://doi.org/10.3390/s25185924> <https://www.mdpi.com/3510116>

Quantification of corona discharge intensity applied to sphere-plane configurations

Gupta, Pradeep Kumar; Ruiz, Jordi-Roger Riba; **Tuttelberg, Kaur; Kilter, Jako** IEEE Transactions on Dielectrics and Electrical Insulation 2025 <https://doi.org/10.1109/TDEI.2025.3562196>

Reconfigurable three-switch leg multi-port boost inverters with novel modulation schemes for hybrid DC/AC microgrid systems

Reddy, M. Rama Narayana; Reddy, B. Dastagiri; Prabhakaran, Prajof; **Chub, Andrii**; Kouro, Samir IEEE Access 2025 / p. 77124-77146 <https://doi.org/10.1109/ACCESS.2025.3565791> <https://ieeexplore.ieee.org/document/10980297>

Reinforcement Learning-based Energy Management Strategy for Flexible Hybrid ac/dc Microgrid

Gutiérrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr; Matiushkin, Oleksandr**; Barrero-González, Fermín;

Remote data transfer and comparative performance through PyBaMM and mathematical techniques in battery applications

Zequera, Rolando Antonio Gilbert; Rassölkin, Anton; Belolipetskaja, Diana 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144690>

Review of technical solutions addressing voltage and operational challenges in a distribution grid with high penetration of intermittent RES

Astapov, Victor; Shabbir, Noman; Rosin, Argo; Kütt, Lauri; Maask, Vahur; Tiismus, Hans Energy reports 2025 / p. 1738-1760
<https://doi.org/10.1016/j.egy.2025.08.019>

Review of the present state, development trends, and advancements of power electronic converters used in robotics

Vodovozov, Valery; Raud, Zoja Energies 2025 / art. 2638 <https://doi.org/10.3390/en18102638>

Review of Trends in the Development of Power Rectifiers used in Robotics

Vodovozov, Valery; Raud, Zoja 2025 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI) 2025 / 6 p. <https://doi.org/10.1109/IATMSI64286.2025.10984733>

A Scoping Review of Energy Consumption in Industrial Robotics

Muru, Johannes; Rassölkin, Anton Machines 2025 / art. 542 <https://doi.org/10.3390/machines13070542>

Solar PV Generation and Consumption Dataset of an Estonian Residential Dwelling

Hasan, Sayeed; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri Scientific Data 2025 / art. 481 <https://doi.org/10.1038/s41597-025-04747-w>

Startup implementation in universal power electronics interface with dual-standard output for DC microgrid applications

Chauhan, Sachin; Khan, Salman; Chub, Andrii; Vinnikov, Dmitri; Wunder, Bernd; Flores-Bahamonde, Freddy 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p
<https://doi.org/10.1109/CPE-POWERENG63314.2025.11027310>

State-of-the-Art Review of Emerging Trends in Renewable Energy Generation Technologies

Tiismus, Hans; Maask, Vahur; Astapov, Victor; Korõtko, Tarmo; Rosin, Argo IEEE Access 2025 / p. 10820 - 10843
<https://doi.org/10.1109/ACCESS.2025.3528640>

Switched-capacitor resonant DC–DC converter with differential power processing for stacked servers in data center applications

Dos Santos, Niwton Gabriel Feliciani; Carvalho, Edivan Laercio; Chub, Andrii IECON 2025 – 51st Annual Conference of the IEEE Industrial Electronics Society 2025 / 6 p <https://doi.org/10.1109/IECON58223.2025.11221655>

Switching oscillation-based fractional-domain high-sensitive diagnosis of machine turn insulation degradation

Sardar, Muhammad Usman; Vaimann, Toomas; Kütt, Lauri; Asad, Bilal; Kallaste, Ants Engineering Science and Technology, an International Journal 2025 / art. 102224 <https://doi.org/10.1016/j.jestch.2025.102224>

Synthetic Data-Driven Detection of Broken Rotor Bars in Induction Machines Under Adjusted Noise Level

Nuha, Nurjahan Amin; Siddik Injam, Md Tanbir; El Bouharrouiti, Nada; Hemeida, Ahmed; Kudelina, Karolina; Naseer, Muhammad Usman; Belahcen, Anouar 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) 2025 / 6 p
<https://doi.org/10.1109/WEMDCD61816.2025.11014141>

Traction powered multiport DC-DC converter for bidirectional EV charging application – HIL simulation results

Lukianov, Mykola; Romero Cadaval, Enrique; Matiushkin, Oleksandr; Strzelecki, Ryszard 19th International Conference on Compatibility, Power Electronics and Power Engineering 2025

Universal interlinking converter for prosumer DC buildings : Operation with different DC grid types

Carvalho, Edivan Laercio; Mandrioli, Riccardo; Pittala, Lohith Kumar; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144648>
[Conference at Scopus](#)

Utilizing the fuzzy logic algorithm for cartesian robot control system in conditions of mechanical damage transmission

Dunaeva, Olga; Autsou, Siarhei; Kudelina, Karolina; Roosileht, Mare IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society IECON Proceedings (Industrial Electronics Conference) 2024 / 5 p
<https://doi.org/10.1109/IECON55916.2024.10905445> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Wide voltage gain current-fed isolated buck-boost series-resonant DC-DC converter with active clamp for DC microgrid applications

Khan, Salman; Chub, Andrii; Vinnikov, Dmitri; Kasper, Matthias; Deboy, Gerald; Sachin, Chauhan 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144687>
<https://ieeexplore.ieee.org/document/11144687>

Wideband frequency diagnosis for high-sensitivity turn-insulation degradation estimation in inverter-fed machines
Sardar, Muhammad Usman; Vaimann, Toomas; Kütt, Lauri; Asad, Bilal; Kallaste, Ants; Raja, Hadi Ashraf 2025 IEEE Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED) : proceedings 2025 / 7 p
<https://doi.org/10.1109/SDEMPED53223.2025.11154298> [Conference paper at Scopus](#)

Wideband frequency response analysis for sensitive condition estimation of machine's turn insulation degradation faults
Sardar, Muhammad Usman; Vaimann, Toomas; Kütt, Lauri; Asad, Bilal; Kallaste, Ants; Land, Raul 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) 2025 / 6 p <https://doi.org/10.1109/WEMDCD61816.2025.11014207>

Wide-range universal isolated DC-DC converter for EV charging applications
Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 5 p <https://doi.org/10.1109/IECON55916.2024.10905692> [Conference proceedings at Scopus](#) [Article at Scopus](#)